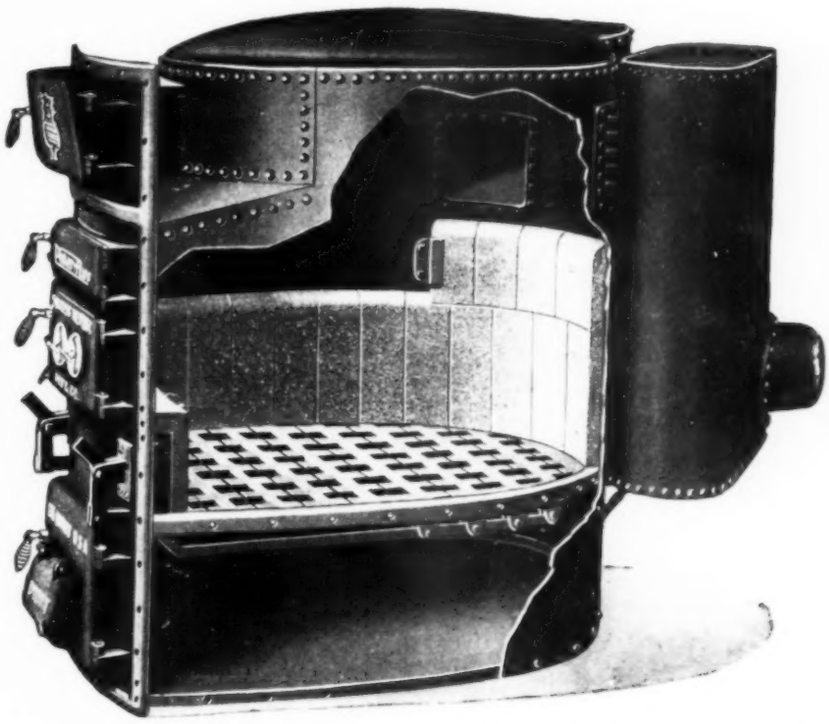
# American Artisan and Hardware Record

## Sheet Metal Work-Warm Air Heating

Vol. 94, No. 7 | CHICAGO, AUGUST 13, 1927 | $2.00 Per Year



## THE SUCCESS POWER PLUS WARM AIR GENERATOR



### FOR THAT CHURCH, SCHOOL, GARAGE OR ANY OTHER HARD-TO-HEAT JOB

IT IS designed especially for Power Plus work and long service. It is oblong in shape, has seven and one-half square feet of grate surface, twin radiators, locomotive type grates, shaking in two sections.

It is made of ¼-inch ARMCO-Ingot Iron plates, riveted and caulked, gas and smoke tight.

Remember, too, our engineering department is maintained for your benefit. Why not use it?

*Now is the time to go after these jobs*

**SUCCESS HEATER MANUFACTURING CO.**

**1010 Murphy Street** **Des Moines, Iowa**

# WHY DO I ?

## Why do I sell HOMER *Heating Systems?* asks the successful heating contractor. Here are the reasons!

1. Demand is created by HOMER all-year-round advertising right here in my own city.
2. The HOMER sales-method makes it possible for me to close sales at high prices.
3. HOMER Record-Keeping System shows me week by week exactly how well I am doing.
4. HOMER out-of-the-ordinary direct by mail campaign assists me in landing hard-to-sell prospects.
5. The HOMER Representative who serves me has had years of retail experience. He knows all angles of the business and he really helps me.
6. HOMER Financing yields me 92 per cent of my contract price immediately.
7. HOMER on-the-ground counsel and sales assistance is mine for the asking at any time.
8. The HOMER Grand and Ace Furnaces are well built, properly proportioned and scientifically correct. I can sell them with conviction.
9. HOMER B. T. U. method of figuring heat losses is quick, accurate and dependable. I like it and my customers have confidence in me because of it.
10. Lastly, HOMER co-operation is prompt, thorough and modern. I hold my own with any of them because I get new suggestions every week.

*Write for details of HOMER money-making methods!*

WARM AIR MOIST AIR HEAT FRESH AIR

**Homer Furnace Company**

Coldwater, Michigan, U. S. A.

*"What's home without a Homer"*

ASK US TO MAIL THE HOMER WEEKLY BULLETIN

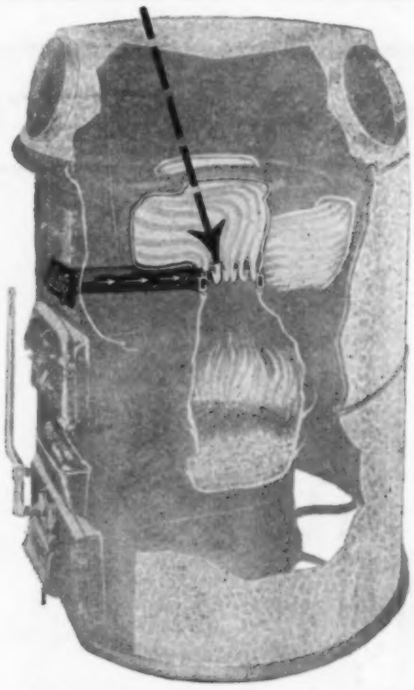
# This is the Sales Demonstration

IT shows right before their very eyes the *second fire* created by the Carburetor in the SUPERIOR SUPER-SMOKELESS Warm Air Furnace. It can't be denied—Seeing is Believing!

And the smoke stack! In an inconceivably short time after you open the Carburetor door, the thick, black smoke of even a freshly stoked soft coal fire has vanished.

This visible, actual demonstration which *you* can stage so *easily*, is just one reason why the SUPERIOR SUPER-SMOKELESS sells in such numbers—in soft coal territory, in hard coal territory.

**UTICA HEATER COMPANY**
**Utica, N. Y.**
**365 E. Illinois St., Chicago, Ill.**
*Makers of Superior Pipe and New Idea Pipeless Furnaces*



The SUPER-SMOKELESS *Sales Demonstration Plan* has proven so successful that any dealer who *seriously* wants more sales *at a profit* will act wisely by writing us for full details.

**SUPERIOR**
**SUPER-SMOKELESS**
**WARM AIR FURNACE**

**SUPERIOR DEALERS ARE EXCEPTIONALLY LOYAL---WHY?**


Published Weekly by American Artisan and Hardware Record, Inc., 620 South Michigan Avenue, Chicago, Illinois. Entered as Second Class Matter June 25, 1887, at the Post Office at Chicago, Illinois, under act of March 3, 1879.

# A Beautiful Umbrella—But—

The sun was shining brightly the day this young lady stepped up to the bargain counter and bought her umbrella.

The saleslady sold her on the beautiful carved mahogany handle, silk tassel and rust-proof ribs.

It looked like a million dollars until it rained, and the picture shows the result.

Umbrellas and furnaces are alike in one respect, they're not much good if they leak. All the frills and features that are a part of the sales argument are meaningless if the furnace leaks after it has been installed.

Like the owner of the umbrella, the furnace owner vows to steer clear of the dealer who sold it.

You have no dissatisfied customers when you install "AFCO" Boiler Plate Furnaces. "AFCO" Furnaces are riveted gas tight. Not a single cemented joint on the furnace body.

We want you to have the complete facts about "AFCO" Furnaces. A postcard or letter request will bring them without obligation. American Furnace Co., St. Louis, Mo.

*Riveted Gas Tight—Can't Leak*

**Other Furnaces Come and Go, but "AFCO" Stays and Grows**

*The Economical*

# NIAGARA FURNACE

*Is a Product* that gives satisfaction. Huge in value—Small in cost. Sturdy in Construction—Economical in use.

*Built in a Plant* where every known method is employed to make it uniform and of such materials that it actually gives a lifetime of service.

*Sold under a policy* that makes the Dealer eager to push it because there is profit in each sale with features that make it an easy furnace to market.

*Manufactured by a company* that has 35 years' reputation for fair dealing and progressive methods. Consider these four square advantages.

*The Niagara Franchise grows in value year by year. Plan now to secure it by writing us today.*

*Also Manufacturers of*
*Monarch Furnaces*

**THE FOREST CITY FOUNDRY & MFG. CO.**
**1220 Main Avenue** **Cleveland, Ohio.**

# WASHINGTON FURNACES WIN!

*Successful Competition NOT Unfair Competition*

## United States Federal Court Dismisses Suit Brought Against Gray & Dudley Company By Estate Stove Co., Makers of "Heatrola"

JUDGE John J. Gore, of the United States Federal Court, July 23rd., ruled—"that the Gray & Dudley Company has built up an enviable reputation in all sections of the United States for its Washington Line, and its success in business depends upon maintaining same."

The Court further ruled that in manufacturing and selling the Washington Home Furnace the Gray & Dudley Company in no way entered into unfair competition with the "Heatrola" and that the Estate Stove Company was not entitled to any damages and are to pay the court costs.

# IS SUPERIOR TO "HEATROLA"

Three of America's leading expert pattern makers: M. R. Lehman, H. H. Fleer and H. H. Hiedbredar, testified under oath that the Washington Home Furnace is a superior Furnace to the Heatrola.

## *The* WASHINGTON HOME FURNACE

*A Gray & Dudley Product So Marked - So Advertised*

75 Other Manufacturers Are Producing the Same Type of Stove, BUT The *Washington* Wins Public Preferment By Its Superior Qualities—*Large Air Duct, All Cast Iron Inner Construction (not sheet steel) 100 Pounds Heavier Than Others.*

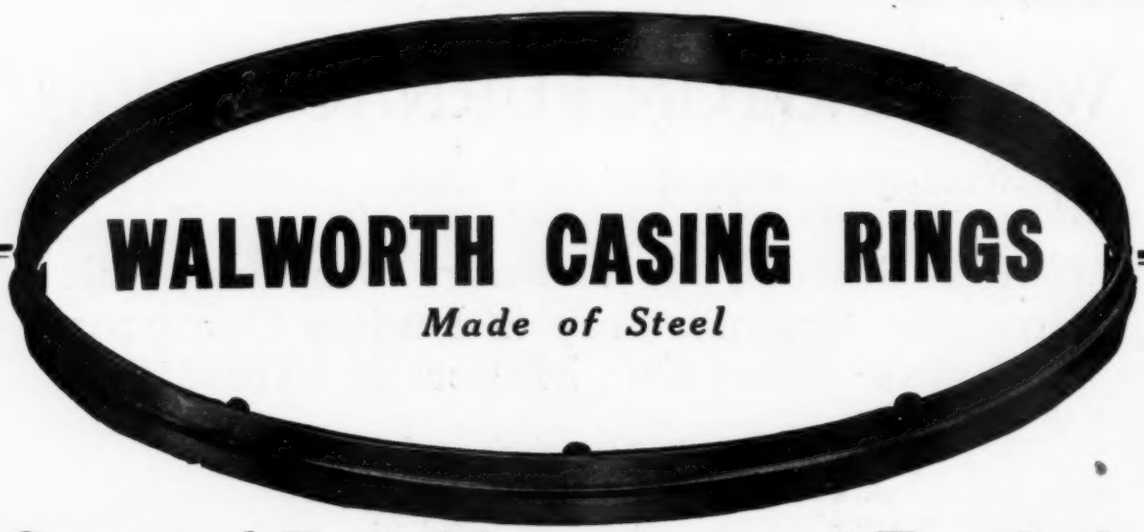
Nationally Advertised and Recognized

Write for Prices and Exclusive Agency Plan. Sell the Great Washington Line.

"No—This is not a Victrola"

GRAY & DUDLEY COMPANY
*Established 1862*
NASHVILLE, TENNESSEE

"WE MELT OVER 100,000 POUNDS OF PIG IRON DAILY"



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## *Guaranteed Exact Measurements and True Circles*

Our long years of experience and modern equipment enable us to make these casing rings high grade in every respect and fully guarantee them.

Walworth Casing Rings are made to individual requirements and measurements, full circles for ordinary use and partial circles for full cast fronts. With lugs for Double Casing and without lugs for Single Casing. Write today for descriptive circular and prices.

***Made by the makers of Walworth Double Gratings, Semi-Steel Registers, Ventilators, Borders, Side Wall and Base Board Registers***

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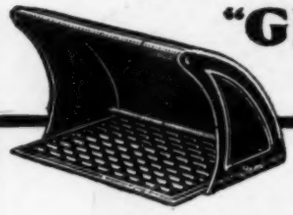

**"GEM" ADJUSTABLE REGISTER SHIELDS**

Summer is on the wane. Get ready for fall with an ample stock of "Gem" Register Shields. Handsome, *permanent* oxidized copper finish, and adjustable to any size register. Floor Shield retails at $1.50. Wall Shield at 75c.

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*—AMERICAN ARTISAN*

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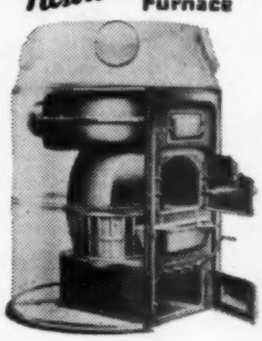

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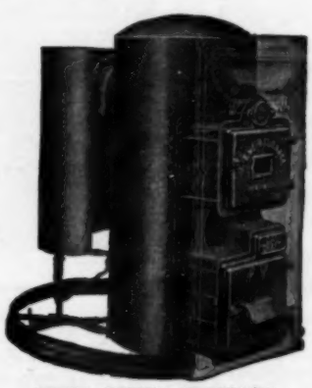

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Also the staple lines such as steel and semi steel Registers; Wood Grille; Whitney Tools; Asbestos Paper and Paste, etc., etc.

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**STANDARD FURNACE & SUPPLY CO.**
**OMAHA, NEBR.**

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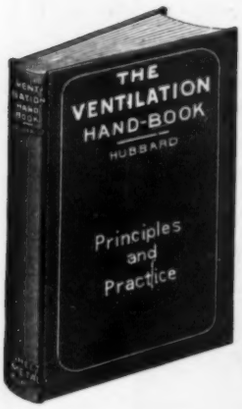


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A PRACTICAL book designed to cover the principles and practice of ventilation as applied to furnace heating; ducts, flues and dampers for gravity heating; fans and fan work for ventilation and hot blast heating by means of a comprehensive series of questions, answers and very plain descriptions easy to understand. By Charles L. Hubbard.

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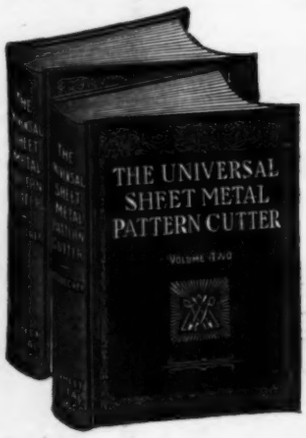


## Every Sheet Metal worker should own this 2 Volume Encyclopedia of Sheet Metal Working

THE most practical and useful treatises on the subject.

Work of all the branches of the trade and the broadest scope of details are found—inside and outside work—small jobs and the most complicated are shown, explained and profusely illustrated.

The first volume deals with all types and kinds of inside small and large sheet metal work.

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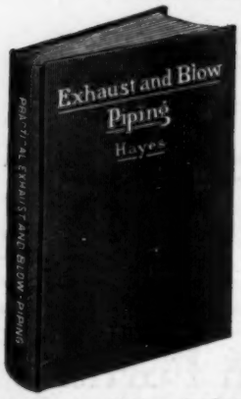


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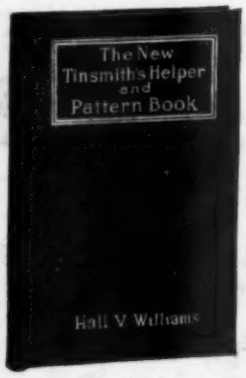
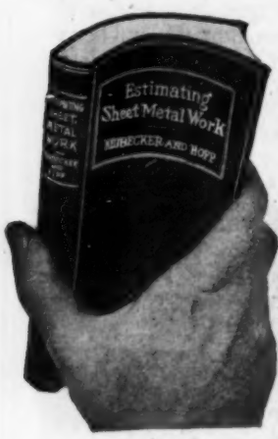



A NEW edition of one of the most popular books on tin-smithing and elementary sheet metal work. The contents of this new edition are new excepting the chapter on Mensuration, which has been re-arranged and amplified, and possibly some fifty pages of problems and tables which are classified to the phase of the work they cover. This book covers simple geometry and every phase of modern pattern cutting, from the making of every type of Seam, Lap and Joint, to Conical Problems and Tinware, Elbows, Piping, Ducts, Gutters, Leaders, Cornice and Skylight Work and Furnace Fittings, 352 pages, 247 figures and 165 tables, flexible leather bound and measures 4½x5 inches. By Hall V. Williams. **Price..... $3.00**

## ESTIMATING SHEET METAL WORK




ANOTHER good book by Wm. Neubecker and A. Hopp. This is a new edition. A manual of practical self-instruction in the art of pattern drafting and construction work in light and heavy - gauge metal, including skylights and roofing, cornice work, etc. 417 pages; 4½x 7 in.; 215 figures. Cloth, Price ..... **$3.00**

## ESSENTIALS OF SHEET METAL WORK AND PATTERN DRAFTING

A BOOK produced by the combined efforts of L. Broemel and the late Professor J. S. Daugherty, instructor in Sheet Metal Work at the Carnegie Institute of Technology. Pattern drafting is its biggest feature; not only tells how to make the pattern, but how to develop it with modern machines and tools; gives valuable assistance on soldering, brazing, welding, crimping, beading, straight, circular and irregular cutting. Bound in leatherette; 500 pages; more than 400 pen drawings and illustrations. **Price $2.00**

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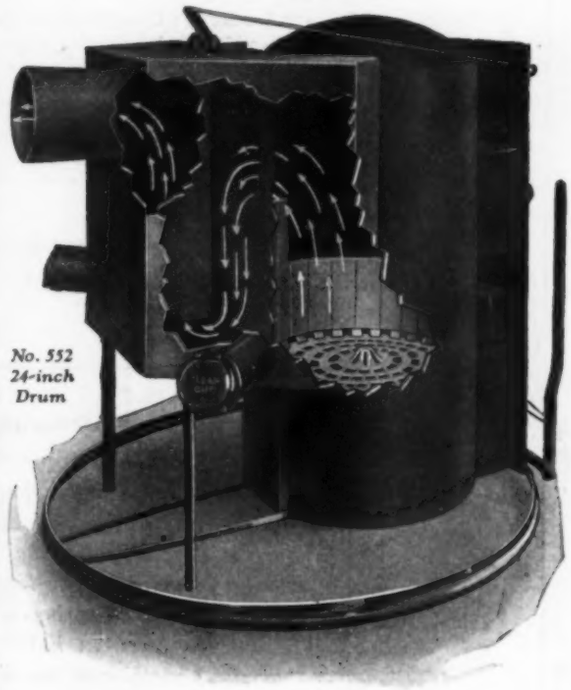
# *Making a big hit because it has these features--*

1. Made of Toncan Copper Mo-Lyb-Den-Um Iron
2. Designed in accordance with the new Rating Formula—Twenty-two and One-half inches of Radiating Surface to every square inch of Grate Area.
3. Unit Circular Grate—One Piece
4. Patent Dumping Device
5. Electric Welded Throughout
6. Radiator Supported Independently
7. Shipped with Front Assembled
8. Capacity of No. 544—24" Drum, 635 square inches of Pipe Area.

*THE Robinson Furnace is a new furnace—a heating plant that meets the demand for quality and service. Get acquainted with our dealer proposition NOW.*

## The A. H. ROBINSON CO.
MASSILLON, OHIO



*No. 552 24-inch Drum*

# *ROBINSON*
## *Steel Furnace*

Founded 1880

Published to Promote Better Warm Air Heating and Sheet Metal Work

# American Artisan and Hardware Record

Sheet Metal Work-Warm Air Heating

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### Dressing That Window

*Sheet metal and warm air heating contractors have labored entirely too much under the impression that the products and services with which they work do not lend themselves readily to display. This is a fallacy that has kept the sheet metal and warm air heating industries from taking their rightful places in the scheme of service rendering industry today. One of the objects which* AMERICAN ARTISAN *hopes to accomplish is to show its readers that sheet metal and warm air heating does lend itself easily to many kinds of displays, and that progressive contractors in both industries are doing it every day.*

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**Patent Leveled**
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**"C" Pickled**
**Single Pickled**
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That's why the Waterbury sells easier to more people! Its many decided advancements in furnace design place this furnace way out in front.

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Minneapolis, Minn.

Please send me complete details for the Waterbury Agency proposition and your illustrated catalog.

*Name* _____

*Address* _____

American Artisan and Hardware Record

Vol. 94 CHICAGO, AUGUST 13, 1927 No. 7

**Historic Office of James Monroe, Fourth President of the United States, Fredericksburg, Va., as It Stands Today Roofed with Sheet Metal**

# *Sheet Steel Trade Extension Committee Helps Promote Galvanized Sheet Use*

## *Trying to Educate Public to Need for Taking Proper Care of Metal Roof**

ONE of the most valuable pieces of work contributed by our Building Trades Extension Department has been the preparation and distribution of standard cornice specifications, which have gone out to architects and builders throughout the country, and it is the first treatise of this kind which has ever been placed in their hands.

These specifications have been exceptionally well received by architects and builders and we have every reason to believe that they will result in an increased use of sheet steel cornices.

### Corrosion of Down Spouts

We are, at the present time, cooperating with manufacturers of eaves troughs and down spouts for the purpose of putting these products on the market, painted on the inside. We have discovered by tests and by experience, that the failure of down spouts is not due to exposure to air and water, but that

*Excerpts from an address by C. L. Patterson, Secretary of the Sheet Steel Trade Extension Committee, delivered at a recent convention of the American Zinc Institute.

corrosion starts on the inside of these spouts, due to water dripping. We have every reason to believe and do believe that if the fabricators of down spouts will paint these spouts on the inside before they are put on the market, we will have gone a long way toward overcoming the faults of sheet steel down spouts.

We believe that it is just as necessary, in order to maintain a galvanized roof in good condition, that this roof be painted at regular intervals, as it is necessary to paint wood or any other material, and we are trying to educate the public and sheet metal contractors to this end. The difficulty in painting new galvanized sheets is largely responsible for the negligence in this matter, and we are now cooperating with a number of paint companies and research laboratories to develop a paint which can be applied and which will adhere to new galvanized sheet metal work.

**Fire Tests**

You are all more or less familiar with the fire tests which we sponsored in the United States Bureau of Standards last July, for the purpose of demonstrating the fire resistant properties of sheet steel. Considerable publicity has been given to these tests and as a result of them many of the restrictions which have heretofore existed in the building codes of the larger cities against the use of sheet steel for various purposes are being removed. The cities of Kansas City and Cleveland are notable instances where new codes have been enacted, permitting a wider use of sheet steel and sheet steel products in the building trades.

We have recently established working relations with all the agricultural colleges in the United States. We find that many of these colleges today are extremely interested in plans and specifications for standardized steel farm buildings. We all know that fire and lightning are the greatest hazard to farm buildings, and agricultural colleges recognize the fact that sheet steel is not only the best but the most economical building material which the farmer can use.

We have recently compiled in our office a mailing list of 5,000 county agents throughout the United States. The county agent is appointed by the State Government upon recommendation of the State Agricultural Department, and is the farmer's authority in each locality for all matters pertaining to farm operation. Agricultural colleges prepare and distribute plans, specifications and suggestions for practical constructions of roofing, barns, brooder houses, granaries, silos and machine sheds, through these county agents, and the reception which has been accorded our representatives by these agricultural colleges encourages us to believe that our opportunity for promoting the use of sheet metal building on the farm is greater today than ever before.

**Insurance Rates**

We are also cooperating with mutual fire insurance companies for the purpose of securing preferential rates on insurance for fireproof structures, and in one instance we were able to get a reduction of 300 per cent in insurance premiums on the contents of a steel building as compared with a wooden building. We are cooperating with and are members of the National Farm Fire Protective Association, whose object is to promote the construction of fireproof structures on the farm, and our Building Trades Extension Department has just recently completed a report, which we have every reason to believe will be adopted by the National Farm Fire Protection Association, recommending the use of steel roofing, steel siding and other steel buildings for farm purposes.

**Educational Books**

We are now preparing in our office a booklet or sales manual on sheet steel roofing which will again be the first booklet of this kind that has ever been distributed. This booklet can be used to advantage by the sheet metal contractor.

We are also preparing an educational booklet to be used in the manual training and vocational schools for the purpose of creating in the minds of future citizens a consciousness of the utility and beauty of sheet steel.

**Galvanized Sheets Holding Their Own**

The charts here, which are reasonably accurate, portray to you better than I can do the present status of galvanized sheets as compared with other forms of sheet steel and must indicate to you that in our trade extension effort we have met with greater sales resistance in trying to increase the demand for galvanized sheets than for any other class of material. That we have made very little headway is apparent. That conditions would not have been even worse had it not been for our trade extension campaign, no one can say with certainty.

I stated in the beginning that I had not come here to paint a rosy picture of the future of our industry, but to state facts as they have been collected by our committee. We have pointed out that, despite what many of our member companies consider to be a disproportionately large amount of our total advertising effort given to the subject of galvanized sheets in their many fabricated forms, the use of galvanized sheets is barely holding its own, whereas other uses of sheets have been on the increase.

**T. E. C. Master Brand Opposition**

The one measure which we expected to be most effective in reestablishing galvanized sheets in the confidence of the public, namely, the Master Brand, had been put through only so far as agreements with our manufacturers for the use of the brand and specifications for all gauges of galvanized sheets of the brand were concerned. But the jobbers offered so much opposition to carrying the Master Brand sheets with their heavier coatings, in addition to the commercial sheets, that, reflecting their objections back through the sales departments of the steel companies to the managers, there resulted a cessation of all activity toward the production of these Master Brand sheets. The objec-

tion of the jobbers was based on the proven facts: first, that the use to which the sheets in their warehouse was to be put is never known in advance by the jobber and most generally not by the customer who buys the bundled sheets; second, the light coatings now in use will generally stand most of the operations of bending and forming to which sheets are put, but for some operations, even these coatings are too heavy and peel or flake off.

There is a tendency for these operations to become too difficult for the galvanizing to withstand, not only because of the bends being made more carelessly but also because of the employment of automatic machinery which makes these bends very much more quickly, thus giving sufficient time for the flow of metal to occur. The jobbers having at the moment little or no consumer demand for heavier coated sheets, and the certain knowledge that the heavier coated sheets would not be satisfactory for many purposes under present ideals of design and manufacture, made very pronounced opposition on the grounds of self-interest against the greatly increased stocks which they would have to carry if they stocked the Master Brand sheets.

**Idea To Be Modified**

The consequence of this decided sales opposition was that the Master Brand sheet with all of the advertising of it that has been done already, and with the continuous references which we still make to it, will either have to be dropped completely or will have to be promoted in a modified form.

We know from our market analyses that there are dry sections of the country where the very lightest coating and thinnest steel sheets last for many years as roofing without rusting out, but there are other and more numerous sections where sheets do not last satisfactorily with their present coatings. Nevertheless, the great bulk of the demand for roofing sheets at the present time is for exceedingly cheap sheets, and to sell these people the idea of quality is bound to be a slow and expensive undertaking, even though a very necessary one. One fact of importance in this connection is the agricultural field, which constitutes a very large percentage of the total use of such sheets for roofing purposes, over 50 per cent of the farms in this country are worked by tenant farmers. In this case, therefore, a very special type of advertising will have to be devised which will reach the owners of these tenant farms.

**Master Brand for Corrugated and V-Crimp**

As a practical measure of importance to the sheet steel manufacturers and as a means of holding and recovering a considerable part of the market for the covering of steep pitched roofs, we wish to see the Master Brand applied to two forms of roofing, namely, corrugated and V-crimp roofing, neither of which usually receives, once they have been formed, any severe or quick bending in their later joining or application.

I have just received a telegram from our office in Pittsburgh stating that according to the records of shipments in 1926 corrugated and V-crimp roofing took up about forty per cent of the total production of galvanized sheets and amounted to about 300,000 tons. This will give you an idea that, if the Master Brand was applied just to these two forms of roofing, it would provide for a much heavier coating on at least 300,000 tons of roofing sheets.

We take, at this point, opportunity to impress upon you that there has been no definite desire or action on the part of the manufacturer of steel sheets to reduce the amount of zinc coating because of any animus against zinc, but that any reduction in the weight of coating which has occurred has been a part of a general plan of economy forced upon the sheet steel manufacturer by markets that were sold entirely on a price basis, and economies in zinc, severe as they may seem to you gentlemen, have not been any more severe, or as severe, as the economies practiced in every branch of the steel making and rolling plants.

During the past three years twenty-nine independent manufacturers of sheet steel have been expending a third of a million dollars a year for the advancement of our product and yours. These twenty-nine manufacturers represent about 70 per cent of the sheet steel producing capacity of the country. The other 30 per cent is largely represented by the largest indiviual producer of sheet steel in the United States, which, although having expressed itself on many occasions as favorably disposed to our campaign and fully appreciative of its benefits, *has not, up to the present time, contributed one cent to its support.*

If we are to put a better galvanized sheet on the market today, it can only be done at an increased production cost, and must necessarily carry on increased selling price. The steel industry is not only confronted by the organized efforts of other competitive industries, such as lumber, prepared roofing, cement, brick, stone, aluminum and copper and brass, but is also in competition with developments within itself, that of strip steel, which threatens to render obsolete, within a period of three or four years, the millions of dollars' worth of equipment in the sheet steel mills today. To my mind, the steel industry is facing the most serious crisis in its history.

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## Cook County Sheet Metal Club to Hold Outing at St. Paul's Park, August 25

The Cook County Sheet Metal Club, Chicago, at its meeting held last Friday evening at Immel Hall, Belmont and Elston Avenues, decided upon the dates of its second annual outing.

The outing will be held on Thursday, August 25, at St. Paul's Park in Morton's Grove. This park has a dance pavilion and athletic field and all other facilities which are necessary for the staging of successful picnic.

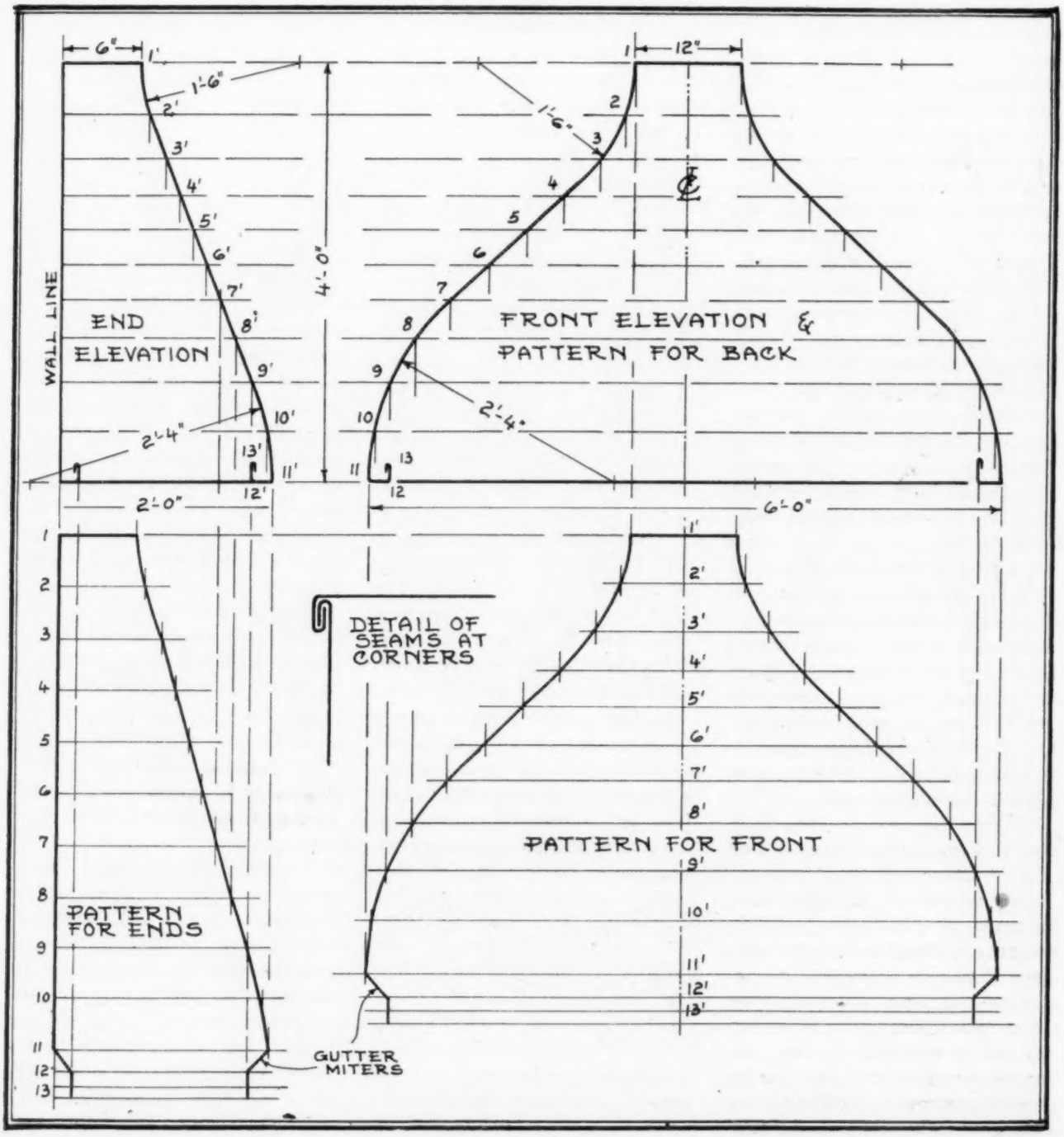
The publicity committee and committee having charge of the contests is made up of Edward N. Stahler, Edward C. Carter and George J. Duerr.

# Developing Pattern for Range Canopy in Large Commercial Kitchens

## Such Canopies Are Constructed so as to Catch Condensation

By O. W. Kothe, Principal St. Louis Technical Institute, St. Louis

MODERN institutions, such as hospitals, schools, colleges, etc., are beginning to install elaborate kitchen equipment, largely of the steam variety. Here most of the cooking is done with steam. Even in large industrial buildings as banks, etc., they are equipping kitchen for steam cooking, and there is a long list of sheet metal fixtures, as well as hoods, etc., to cover cookers, etc.




Patterns for Range Canopy

In the latest designs the practice is becoming more general to bend a gutter on the inside of the hood to catch condensation, which is run to one corner. Here a small removable bucket is hung. This is also a form to aid in greater clealiness and is easily done. In our front and end elevation we show the measurements for such a hood recently installed, together with the sweep for the curves. This ordinarily gives most men a considerable worry to lay out.

But when we go at it right, it is quite simple. For instance, make the first detail, the end elevation and the front elevation, according to measurements to some suitable scale, working as large as your drawing board will permit. Where such layouts can be scaled to a half or a quarter or an eighth size, it is better than working to a scale rule. But on very large work this is also too large and, therefore, we must work to some suitable scale, often as three-quarter inch to the foot. The aim then is to develop the entire layout carefully, so that absolute accuracy is maintained and after this all lines in the pattern can be scaled to full size measurements and each line marked to its full measurement. From here on it is a simple matter to reproduce the layout on a sheet of metal or several sheets, as the case may require.

In laying out work of this kind it should be observed that the front elevation gives length while the side elevation gives width and the lines give the girth. Therefore if we divide the line 1-11 of front elevation into any number of equal parts, or 10 in this case, we can pass lines horizontally into end elevation and it establishes points 1′-2′-3′, etc. Now if we pick the girth from front elevation, as 1-11-12-13, which in reality is nothing else but the edge line of end elevation, we set this below the end elevation as 1-13. Then from each point, as 1′-2′-3′, etc., our end elevation drop lines into stretchout until they cross lines of similar number. Sketch a line through these points and you have the pattern for the ends.

The same holds true with the pattern for the front elevation, the girth is picked from the end elevation, 1′11′-12′-13′, which in reality is the edge line of the front elevation, and this is set below the front elevation as one line 1′-13′. By the use of horizontal stretchout lines and vertical projectors the intersections for the miter line are established as shown and this gives the pattern for the front. Edges for seaming, whether of the double seam or the standing seam, must be allowed extra. On small hoods the double seam is preferable, while on large hoods the standing seam is used, because it helps in acting as a stiffener to the entire job when completed.

# *Frank R. Meyer Appointed Assistant Vice President of Inland Steel Co.*

### *Succeeds to Position from Which Walter C. Carroll Resigned on August 1st*

FRANK R. MEYER, JR., has been appointed Assistant Vice-President of the Inland Steel Company, in charge of sheet steel sales, according to an announcement made late this week. He succeeds Walter C. Carroll, formerll Vice-President, who resigned August 1st to become President of the National Association of Sheet & Tin Plate Manufacturers.

Until his promotion, Mr. Meyer was District Sales Manager of the Inland Steel Company's St. Louis, Missouri, office, a position which he had held since January, 1919. He first became affiliated with Inland Steel Company in 1911. Prior to that time he was employed by the Standard Stamping Company and various other steel companies in St. Louis, Missouri.

He will be succeeded as District Sales Manager in St. Louis by Mr. Walter F. Brumm, who has been associated with the Inland Steel Company in their Kansas City and St. Louis, Missouri, offices for several years.

Prior to his affiliation with Inland, Mr. Brumm has been employed by the National Enameling & Stamping Company, the Midvale Steel & Ordnance Company, and other steel companies.

Announcement has also been made by the Inland Steel Company of the appointment of H. H. Straus as Vice-President. Mr. Straus has been in charge of the Chicago Heights, Illinois, plant for the past five years.

The business of the Inland Steel Company is enjoying an exceedingly bright outlook.

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**Louis M. Hess Succeeds to Ownership of P. J. Hess & Co., Ottumwa, Iowa**

Louis M. Hess has succeeded to the ownership and management of the business of P. J. Hess & Company Shop, Ottumwa, Iowa, after the death of his father, P. J. Hess, which occurred July 5th last, and will run it under the name of Louis M. Hess in the future.

P. J. Hess—"Pete," as he was known to a very large host of friends in Southern Iowa—was a pioneer sheet metal worker, Ottumwa, having lived there all of his life.

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**C. S. Johnson, Dell Rapids, S. D., Finds Artisan Helpful**

To AMERICAN ARTISAN:

I am mailing you a check for renewal of my subscription to AMERICAN ARTISAN. I do not feel that I could get along without it, as I have been a reader of this valuable paper as long as I can remember. My father, C. J. Johnson, before me was a subscriber since the early eighties.

Yours truly,
C. S. JOHNSON.
Dell Rapids, S. D.

# *Peoria Sheet Metal Men Hosts to 150 at 15th Annual Outing*

## *North Shore Country Club Affords Beautiful Setting for Most Perfect Outing*

A PICNIC de luxe! That describes the annual outing of the Peoria Sheet Metal Contractors' Association held last Wednesday at the beautiful North Shore Country Club on the picturesque east bank of the Illinois river, 18 miles north of Peoria. Here the fourteen Peorian plutocrats, hosts of the day, entertained their 160 guests in a grand manner. A chicken dinner that would make ze most distingué of French chefs exclaim, "Oo la la!"—a gastronomic triumph, served on the broad, airy verandas of the club, overlooking the river, started the festivities. Platters heaped high with fried chicken, which tasted like good old pre-war, pickled peaches, cantaloupe delight, gay hats, favors and noisemakers for all were some of the features of the dinner.

The dinner over, men, women and children alike engaged in the competitive games, winning handsome prizes in each case. These competitive games provided valuable statistical information. For instance, the jug filling contest for women revealed the fact that the women are not as good at filling jugs as the men are at emptying them—in private.

"Then, too, as blowers the women broke all records, including the balloons. As you know, this trait of blowing is usually accepted as being exclusively for the male.

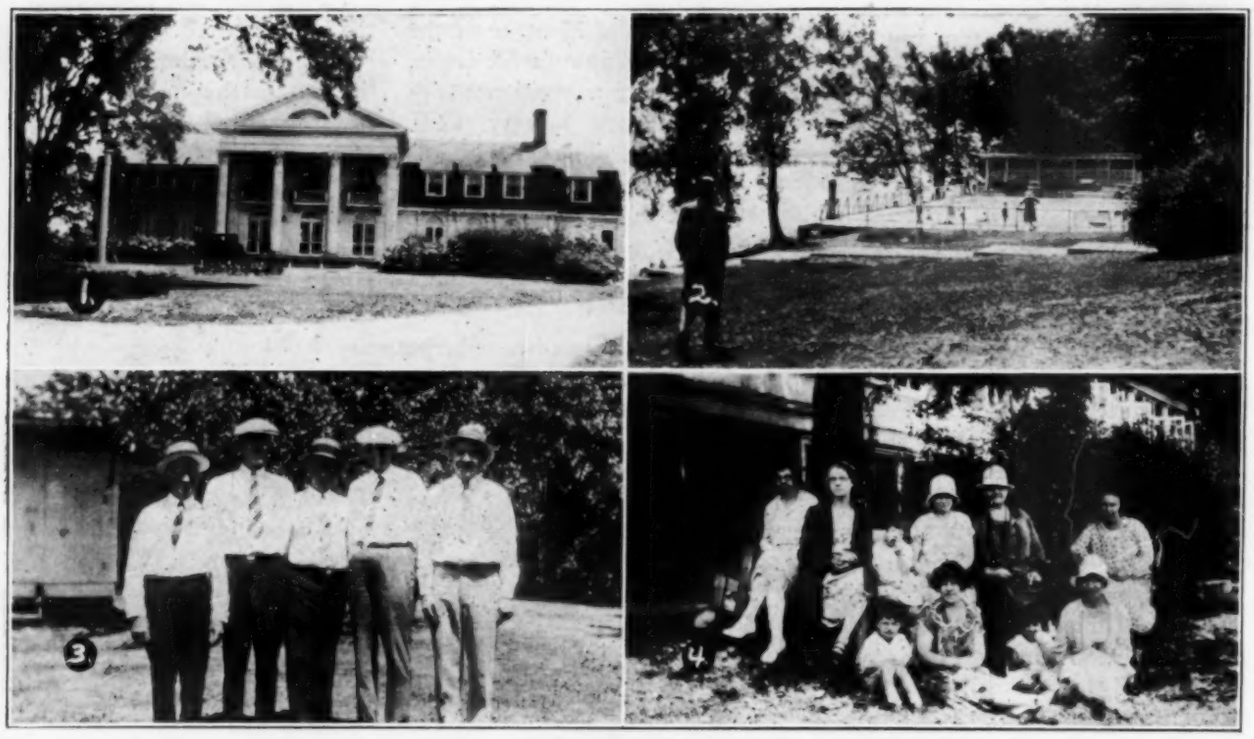
The small boys were treated to a face powdering, but in a somewhat unusual way. Six pie tins were filled with flour. In one of these tins was hidden a washer. The object was to find the washer. The washer was found all right; but the boys who had hunted for it were in serious danger of being accused of trying to imitate their sisters.

There were numerous other games during the afternoon indulged by the women and children, the men confining themselves to onlooking except when they were getting prescriptions filled at the little work shop. This, in some cases, was quite often, others not.

The outdoor bathing pool at the club was available to the guests during the day.

In the evening a real Dutch lunch supper was served, and how. This was followed by dancing in the club ball room under a full moon.

When it comes to outings in



**1—Front Entrance to North Shore Country Club, Peoria, Illinois, Where Fifteenth Annual Outing of the Peoria Sheet Metal Contractors' Association Was Held. 2—Bathing Pool in Rear of North Shore Country Club. 3—Left to Right, James Conners, Frank Bright, George Reinders, GeorgeHarms, and Ralph Van Norman—Messrs. Bright, Reinders and Van Norman Are with the F. Meyer & Bro.Co. 4—Left to Right, Mrs. Fred Harms, Mrs. Charles Spindler, Ruth Jeane Harms, Mrs. William Harms, Mrs. George Harms, and Mrs. Carl Roth. Left to Right, Seated on the Ground, Bruce Spindler, Mrs. Clarence Spindler, Elaine Harms, and Mrs. Theodore Schulze.**

**1—Group of Women Entries in the Balloon Blowing Contest, and Spectators. The Bag Seen in the Foreground Contained Peanuts and Everybody Helped Themselves. 2—Left to Right, Standing, S. T. Jackson, His Fiancee, Miss Helen Bushel, and Mrs. F. H. Hawk. Left to Right in the Row Seated, James Hawk, Mrs. F. I. Eynatten, Kathryn Bushel, Mrs. F. J. Hurley, Mrs. R. P. Nailon, and Billie Nailon. 3—Left to Right, Two Sons of William D. Schlatter, Wm. D. Schlatter, Mrs. Schlatter, Mrs. Kingley, Miss Della Bright, Mr. and Mrs. Henry Bauman and One of Their Small Sons. Mr. Bauman Is President of the Peoria Local Association. 4—Left to Right, June Becker, Alice Madden, Kathryn Eynatten, Frances Bauman, and Mary Broderic. 5—Left to Right, R. J. Jobst, George Harms, John Ditchett, W. A. Backes, Charles Spindler, and James Conners. 6—George Harms and His Grandson, Harold Schulze, Beside Mr. Harms' Beautiful New Dark Maroon-Colored Packard, Selected by Master Schulze.**

Peoria, "What those Peorians ain't got they don't need."

The prize winners of the competitive games were as follows:

*Ladies' Jug Filling Contest*

1st prize, pyrex casserole—Lydia Zuercher.

2nd prize, pudding dish No. 155—Mrs. Schultz.

*Ladies' Balloon Blowing Contest*

1st prize, aluminum kettle—Rilla Spindler.

2nd prize, steel skillet—Mrs. Hawk.

*Ladies' Bean Throwing Contest, 10 Beans Each*

1st prize, curling iron—Mildred Kratzert.

2nd prize, 8-quart white enamel pudding pan—Miss Bushell.

*Ladies' Golf Ball Contest*

1st prize, steel skillet—Mrs. Schultz.

2nd prize, bread knife—Miss Iber.

*Ladies' Potato Race*

1st prize, white enamel coffee pot—Miss Bushell.

2nd prize, alarm clock—Mrs. R. Iben.

*Ladies' Horseshoe Contest*

1st prize—Mrs. Malone.

2nd prize—Mrs. Backes.

*Girls' Bean Throwing Contest*

1st prize, rubber ball—Marion Bright.

2nd prize, orange reamer—Shirley Roth.

*Girl's Potato Race*

1st prize, parasol—Marion Bright.

2nd prize, scissors—Johanna Becker.

**1—Mr. and Mrs. Charles Johnson. 2—Mr. and Mrs. William P. Laffin and William, Jr. 3—Carl Johnson Holding His Own, and Jack Barclay. 4—Charles N. Louis, Past President of the Organization. 5—Boys Trying to Find Washer in Plates of Flour with Mouths. 6—C. L. Snelson and Daughter, Mary Louise. 7—George Harms and His Two Granddaughters, Elaine to the Left and Ruth Jeane Harms. Jeane Ruth Is the Daughter of Fred Harms, and Elaine Is the Daughter of Will Harms. 8—Left, Oliver T. Ingledew; Right, L. A. Denoyer. 9—Bill Schlatter Handing Out an Effervescing Pop to the Watery-Tongued Sheet Metal Men at the Nineteenth Hole. 10—A Few of the Ladies Working Overtime to Get Those Jugs Filled.**

*Girls' Soda Drinking Contest*

1st prize, pair roller skates—Georgia Van Norman.

2nd prize, set nut picks and cracker—Johanna Becker.

*Boys' Flour and Coin Contest*

1st prize, knife—Junior Schlatter.

*Girls' Shoes Off and On Contest*

1st prize, parasol — Dorothy Spindler.

2nd prize, scissors—Shirley Roth.

*Boys' Ball Bat Contest*

1st prize, flashlight—Will Backes.

2nd prize, ball bat — Master Schultz.

*Boys' Hopping Race*

1st prize, roller skates—Junior Schlatter.

2nd prize, playground ball—Ralph Davis.

*Boys' Jug Filling Contest*

1st prize, pocket knife—Willie Backes.

2nd prize, ball glove—Schultz.

*Ladies' and Men's Candle Contest*

1st prize, half dozen pyrex custards, 6 oz.—Mr. and Mrs. Linton.

2nd prize, half dozen pyrex custards, 4 oz.—Mr. and Mrs. Carl Spindler.

*Ladies' and Men's Cigarette Lighting Contest*

1st prize, crumb tray and scraper—C. Spindler and wife.

2nd prize, salt and pepper—Wm. Backes and wife.

*Contractors' Horseshoe Contest*

1st prize, flashlight—Chas. Louis.

2nd prize, pocket knife—W. D. Schlatter.

The picnic committee was made up of Charles Spindler, chairman, William Backes, Harry T. Becker, and W. D. Schlatter and they certainly did the thing up brown.

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**Milwaukee Sheet Metal Men Take Action on Shops Doing Union and Non-Union Work**

The Employers' Council of the Master Sheet Metal Contractors' Association of Milwaukee is going to take action on concerns doing both union and open shop work in the very near future, according to L. F. Reinke, secretary, reporting on the latest meeting of that association.

It was reported that some of our members were playing both sides, open and union jobs, and that a few are considered as closed shops. Reports from Messrs. Bauer and Eschenberg showed conclusive evidence of one concern operating as closed shop, and on motion by Mr. Jeske, seconded by Mr. Eschenberg, the secretary was instructed to request them to appear at our next meeting to contest the charges.

A copy of our present lien laws in Wisconsin was furnished by P. L. Biersach, and on motion by Mr. Eschenberg, seconded by Mr. Hammann, instructions were given the secretary to prepare and issue copies with the next notice that goes out for a meeting.

# Wisconsin Sheet Metal Men Hold Annual Stag Frolic in Woods

## Knepel's Grove, Mequon, Wisconsin, Scene of Outing on August 10th

WISCONSIN is famous for its outdoor beauty and its outdoor men. No wonder then that the sheet metal and warm air heating boys should get together out-of-doors each year for a good old time.

Again the Milwaukee crowd showed its good judgment by picking one of the finest days of the summer. It wasn't too warm but just warm enough to make shirt sleeves pleasant. A slight breeze cooled the ball players

The ball game started in the morning and ended after dinner.

The lineups changed considerably during both sessions and everybody was having too good a time to keep a record of the players or the score.

A roast beef dinner with all the trimmings appeased the appetites of the large gathering and no one left the table unsatisfied with the committee's work.

What else did the boys do? Well, there were plenty of tables for card games and bunco. Then there were thoughtful members who brought along horseshoes and quoits. So everybody was entertained and not a slack minute was detected anywhere in the grove.

Paul Biersach, President of the National Sheet Metal Contractors' Association, a faithful, well known Wisconsin man, was on the job.

R. G. Suettinger and his brother, W. E. Suettinger, together with Bill Elliott, came all the way from Two Rivers to enjoy their first Wisconsin Sheet Metal Outing.

Frank Hollitz won the story telling contest, Henry Pluckhan and Ralph Gehring took the honors in the glass washing game and Louis Eschenberg as usual did the job of sizzling the blut wurst.

1—R. F. Bergin and E. A. Radmer. 2—Louis Eschenburg and his son H. R. C. C. Tolg, State President, and Paul Biersach, National President

Did you ever taste one of these sizzled by Louis? Come up next year and you'll never miss a Wisconsin picnic.

Al Goethal, H. H. Wherry, Bill Hammann, Bob Schmieder and Art Podolske were some of the barnyard golfers.

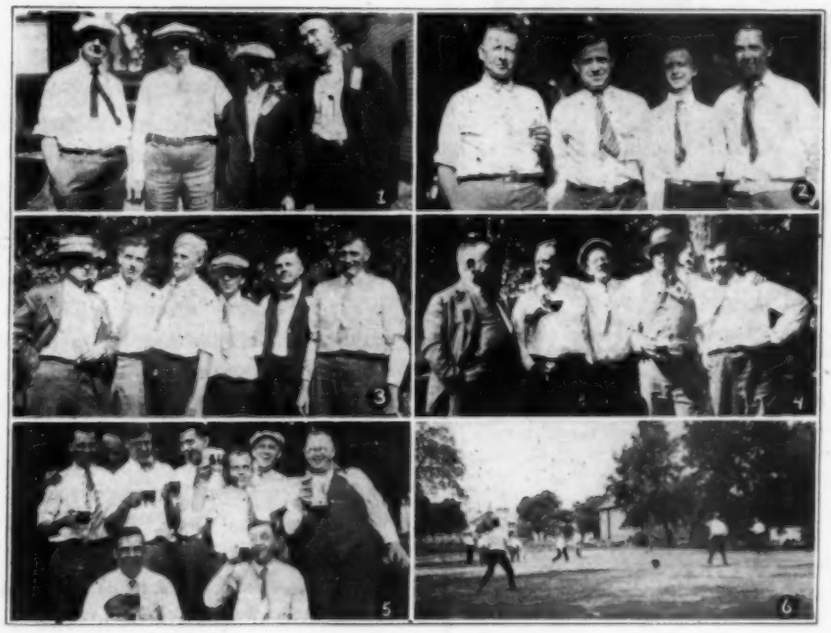
No scores are available on the horseshoe matches either—everybody had a good time so who was going to do any work?

All day long the strain of songs old and new floated over the grove from the bellows of an accordion.

Along about dusk the boys felt like singing and it was here that Jack Millen, who left his resort in the far north to be with the gang, displayed his silver toned tenor voice.

Herb Meyer, C. M. Kuhms, John Petry, and C. E. Bauman formed a quartet that won applause.

It was a picnic, old fashioned, good natured, jolly—a picnic you like to remember with men you can't forget.



1—H. H. Wherry, Geo. Levzow, E. Wilburth and A. Schumann. 2—Bob Suettinger, Wm. Elliott, W. E. Suettinger and Geo. C. Jordan. 3—J. G. Bauer, Art Podolske, Jack Millen, Harry Jueds, E. S. Eaton and A. L. Moersch. 4—L. H. Soper, E. C. Dunning, C. E. Bowmann, Ben Huismann and Archie Scheder. 5—C. M. Kuhns, R. Frank, Bob Schmieder, Herb Meyer, John Petry, Art Podolske and Tom Pykelt

**Wisconsin Sheet Metal Men May Invite Ladies to Future State Conventions**

The Master Sheet Metal Contractors' Association of Wisconsin held its monthly meeting in Milwaukee August 3, according to Secretary L. F. Reinke.

Those present were Mr. Tolg, Mr. Nording, Mr. Gehrke, Mr. Biersach, Mr. Geussenhainer, Mr. Jeske, Mr. Schumann, Mr. Reinke.

A letter from the American Brass Company offering their film showing the various operations in the fabrication of sheet copper was read. After due consideration on motion by Mr. Biersach, seconded by Mr. Gehrke, instructions were given the secretary to write these people that these films would be shown at the next convention.

In the discussion that followed on convention matters, all seemed to be of the opinion that a much better convention would be had if we invited the ladies to be present and arranged a good, clean, wholesome and instructive program. As the banquet usually was arranged by the auxiliary, it was moved by Mr. Geussenhainer, seconded by Mr. Biersach, that our own men take care of all arrangements. This was deemed only proper. On question being put by the chair, the motion was passed. It is understood that the auxiliary are always to be included in all convention doings.

Correspondence from the convention and publicity bureau of Milwaukee Association of Commerce was then read, and on motion by Mr. Geussenhainer, seconded by Mr. Nording, the convention committee was recommended to consider the adoption of the registration fee plan.

An interesting discussion was then had on the chart prepared showing the status of the insurance as compared with similarly hazardous enterprises in various sections of the country. It was shown that in some sections sheet metal liability insurance ran quite high as compared to some of the other trades, whereas in other localities almost opposite conditions prevailed. The consensus of opinion was that, although the rate should vary in different sections, the relative risk in all places in the various trades should be similar. In order to study the charts more closely and examine into the amount of insurance paid by members the past few years, it was decided to defer any action, and again consider this topic at our next meeting.

CHARLES W. ROLAND
25 Years in Richmond

Kofski Studios
D. R. SWISHER
New Member

L. W. LEACH
Retiring Member

**Announcement of Change in Firm Ownership**

We wish to take this means of introducing to our many friends and customers the new member of our firm—

**MR. D. R. SWISHER**

Who has purchased the interests of Mr. L. W. Beach and will immediately take up his duties as secretary and treasurer. Mr. Beach is leaving the furnace and sheet metal business to enter other work.

We consider Mr. Swisher a valuable addition to this organization and assure you that we will continue to render the same satisfactory service we have endeavored to give in the past, striving to improve that service wherever we find it possible to do so. As heretofore you will have the benefit of Mr. Roland's forty years experience in furnace and sheet metal work.

YOU WILL ALWAYS FIND OUR PLACE HEADQUARTERS FOR

**Front Rank Furnace** AND OTHER MAKES — **Furnace Repairs** FOR ANY MAKE

**SHEET METAL WORK** OF ALL KINDS

We will continue to operate under the name of—

**THE ROLAND-BEACH CO.**

32 North Seventh St. Phone 1

Ad Used in Richmond, Ind., Paper Announcing the Change


**P. C. Ripley Thinks Redman's Trouble Is To Be Laid to Small Quantities of Water in the Seam**

In a recent issue of AMERICAN ARTISAN T. E. Redman, Groveport, Ohio, asked a question concerning the best way to solder a gutter. Mr. Sam J. Sorensen, of the Walter Andersen Sheet Metal Shop, 5654 West Chicago Avenue, Chicago, gave Mr. Redman a solution to the problem.

In this issue we present a reply to this inquiry by Mr. P. C. Ripley, research engineer of the Chicago Solder Company. Mr. Ripley writes as follows:

"The phenomena of an exposed soldered seam bursting in a few years when subjected to atmospheric conditions sounds very much as though small quantities of water were trapped in the lock of the seam due to the development of some possible leak and freezing bursting the seam, or that in solder-

ing a chloride solution was employed and trapped in the lock of the seam, slowly working its way out, producing ferric oxide and disrupting the seam and solder.

"The phenomena of expansion and contraction in as light a gauge metal as gutter tin would be more likely to produce a buckling of the metal rather than a bursting of the seam. The soldering of both sides would, no doubt, eliminate some of this trouble or all of it, provided the job was 100 per cent sweated, leaving no cavity or recess for the entrapment of liquid.

"Thanking you for your interest in bringing this to the attention of the AMERICAN ARTISAN and feeling that my suggestion may have some ground, I am P. C. Ripley."

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**Michigan Sheet Metal Outing Arrangements Now All Completed**

The Detroit Sheet Metal and Roofing Contractors' Association, through its president, Mr. William Busch, has made an announcement concerning the Michigan outing, which the Detroit association is sponsoring. Here's what Mr. Busch writes:

"Because Detroit is sponsor to the outing this year, I have been asked to write you and extend on behalf of the local association a personal invitation to bring the family and come along for a good time. At the same time let me give you a few details of the arrangements so that there may be a common understanding of what they are.

"We are going to Miller's Hotel in the St. Clair Flats group. Here you will find the best of food, a chance to fish and almost all the outdoor sports. The trip is made by boat, which leaves the foot of Griswold street Thursday, August 18th, at 1:30 p. m.

"If you are driving to Detroit you should arrange to report to Frank Ederle at the Norton Hotel by 12 o'clock on Thursday, so that your baggage may be taken care of and your car stored until we return.

"Each year as the days of the outing draw near it is natural that our thoughts turn in that direction. Going from city to city in past years for this bit of fun, Detroiters have formed some fast friendships and we feel that this year we may repay in part those who have made our outings so filled with pleasure.

"We really want you to come and let us show you that we appreciate our opportunity of sponsoring the outing." Arrangements have been made with the Rickenberger Garage, 145 West Jefferson street, Detroit, for taking care of cars. Stop at Norton Hotel and get a card for your car.

---

**Spirit of American Navy Latest Triumph of Friedley-Voshardt Co.**

Friedley-Voshardt Company, 733 South Halsted Street, Chicago, have produced another triumph in the art of making sheet metal serviceable.

They have produced from 32-ounce sheet bronze, welded, a statue

Front View

known as the "Spirit of the American Navy." It is seven feet high, having a base 24 by 24 inches, making it a very attractive ornament for bridge heads and in conjunction with the American doughboy. The accompanying illustrations show the front and rear views of this triumph.

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**Charles Hahn, Chicago, Finds Solution to Wind Blowing Out Gasoline Fire Pot**

Here's a piece of information which Charles Hahn, 5148 Irving Park Boulevard, Chicago, wishes to pass along for what it is worth. He says: "Tinners! I had trouble with the wind blowing out my gasoline fire pot and lost a great deal of time on the job in an attempt to make it generate. So I bought a plumber's fire pot, cut openings for the soldering irons and now I can work without loss of time. The blower makes quite a racket, but almost as soon as the gas is generated the irons are hot. The coil is the thing."

Mr. Hahn was formerly located at 4045 Laramie Avenue, Chicago.

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**Graft Makes Honest Livelihood That Much More Difficult**

Secret graft is like a cancer. It eats out the vitality of commerce and the strength of the state. Every secret commission, every covert gift, given by one party to the agent of another, is a denial of the square deal.

It is not square by the employer because it buys betrayal of his interest. It is not square by the recipient because it corrupts his business integrity.

**Paint for Galvanized Cornices, Etc.**

From Hot Tube Manufacturing Company, 2344 West Van Buren Street, Chicago, Illinois.

Kindly advise us who makes paint that will stick, to be used on galvanized cornices, etc.

Ans.—Pecora Paint Company, Philadelphia, Pennsylvania, and William Connors Paint Company, Troy, New York, whose Western distributor is James L. Perkins, 140 South Dearborn Street, Chicago, Illinois.

# Random Notes and Sketches
## By Sidney Arnold

"The essence of humor is sensibility; warm, tender fellow-feeling with all forms of existence."—Carlyle.

Well, now here's where the fun begins. I am quoting below a letter from Arthur P. Lamneck, Secretary of the W. E. Lamneck Company, Columbus, Ohio, accepting the challenge of Jack Stowell and Les Taylor to play any two warm air heating men anywhere at any time, providing that I would act as a go-between. Here's Art's letter:

Dear Sidney:

"I noticed in your issue of August 6th a challenge from Les Taylor, Chicago, Assistant Sales Manager for the International Heater Company, and Jack Stowell, Furnace Installer of Aurora, Illinois, to any two golfers in the heating industry—whether they are manufacturers, jobbers, salesmen or dealers—and request that anyone interested should communicate with the two above-named gentlemen.

"Their challenge is accepted by the writer and Mr. Fred Richardson, Vice-President of the Richardson & Boynton Company, Dover, New Jersey. We do not care to have any direct negotiations with these two gentlemen in the arrangement of this match, and trust you will act as a go-between in arranging the match. We will play at any time and at any place that you, as the go-between, arrange with the interested parties."

* * *

George G. Fischer, manager of the Chicago branch Abram Cox Company, Philadelphia, Pennsylvania, informed me of the fact that Mr. William Hummert and his son of the William Hummert Sheet Metal and Furnace Company, Carter and O'Bear Avenues, St. Louis, Missouri, were in Chicago recently. While here the junior Hummert took occasion to see the St. Louis Cardinals trim the Cubs, but, as Mr. Fischer expressed, "The Cubs were not sympathetic to St. Louis visitors that day, and the Cardinals received a humiliating defeat." I am very sorry that the game turned out the way it did, and I am also sorry that we, too, could not have had the pleasure of entertaining the Hummerts in our office. But perhaps we shall have that privilege the next time they are in our city.

* * *

If Albert Cummings, Secretary of the Iowa Travelers' Auxiliary, could only think of it, here's what he'd like to sing while shaving in the morning:

It's easy enough to be pleasant
When life never gives you a frown,
But the man worth while
Is the man who can smile
When his garters are coming down.

* * *

Bright and early Monday morning I had a very pleasant visit with Joseph W. Kruman, Culver, Indiana, who dropped in at our office to say a few words while in the city. I surely appreciate these unexpected visits that my friends and readers make to our office, and I hope that any of you who are thinking of passing through Chicago on your vacation tours will not neglect the opportunity to drop in for a friendly chat.

* * *

**Life, Sliced**

Mr. A. F. Frazee, of the Rudy Furnace Company, lifted up one corner of his first card. It was an ace. It warmed him a bit. Cautiously he slid the second card up its back and saw that it was a king, the king of clubs. Warily he inspected the third. It was the jack of hearts. He slid down a little in his chair the better to see the ten of diamonds as it arrived. The fifth card came his way now. He hesitated to pick it up. He didn't like to draw to straights in the middle. He fingered it for a moment and snapped its corner against the table. Then he stole a peek. It was a queen.

Mr. Frazee didn't dare look up. He knew he hadn't much of a poker face. He hoped some one would open it before it reached him. Then, of course, he would raise. He was trying to be calm. He looked at his cards again to be sure. Yes, there they were. And then he heard a voice.

"A. F.," said Mrs. Frazee, "what's the matter with you? Pick up the rest of your cards. Mrs. Bascom bid a diamond."

* * *

"Said a wise old bee at the close of day,
'This colony business doesn't pay.
I put my honey in that old hive
That others there may eat and thrive,
And I do more work in a day, by gee,
Than some of the other fellows do in three,
I toil and worry and save and hoard,
And all I get is my roof and board.
It's me for a hive I can run myself,
And me for the sweets of my hard-earned pelf.'

"So the old bee flew to a meadow lone
And started a business of his own.
He gave no thought to the buzzing clan,
But, all intent on his selfish plan,
He lived the life of a hermit free.
'Ah, this is great,' said the wise old bee.

"But the summer waned and the day grew drear,
And the old bee wailed as he dropped a tear,
For the varmints gobbled his little store,
And his wax played out and his heart was sore;
So he winged his way to the old home band
And he took his meals at 'the Helping Hand.'

"Alone our work is of little worth;
Together we are the lords of earth;
So it's all for each and it's each for all,
United we stand or divided we fall."

# The Editor's Conning Tower

## Advancing Into the New Era of Sheet Metal

IN talking to sheet metal contractors and warm air heating men, occasionally we meet one with a somewhat warped point of view with respect to the new era in the sheet metal and warm air heating industries.

These men still cling to the old idea that if they work to the end that they build the industry of which they are a part to a higher plane of activity, the result will be that they will encourage many more men to enter the industry and thus make the job of getting business just that much harder for all.

This is, of course, an erroneous attitude to take. How absurd it is to imagine that a new man coming into a business could outstrip men who have been in that business the greater part of their lives; whose experiences have been such as to give them first-hand knowledge of all of the ins and outs of the business. Therefore, to imagine that a new men coming into the business from some other entirely unrelated line could run the older men out of the business is a frank confession of the failure of the man who permits his thoughts and fears to get the better of him in this manner.

Everyone who is awake to his opportunities and who takes advantage of those opportunities to better himself in the industry of which he is a part need have no fear that the men coming in from the bottom are going to make life miserable for them.

Every man entering a business must necessarily learn a major portion of what there is to know about that business before he can hope to render services that will be recognized by the public to whom he is attempting to cater. In short, he must serve an apprenticeship in that industry.

Is there a red-blooded sheet metal or warm air heating man in the industry today who is willing to confess that a younger man coming into the industry for the first time will be able to surpass him and make him take a back seat? Could such a thing as this take place, especially now with the industry itself expanding to ever wider limits? Not if the men already in the business are on to their jobs.

Another fear that these sheet metal and warm air heating men entertain about the new men coming into the industry is that these men, in order to get business, will cut prices unmercifully and thus bring the business back to the old state of stagnancy from which it has but recently extricated itself.

There is only one way in which the sheet metal men can insure their safety in the industry and that is to extend the newcomer who has the proper qualifications the hand of welcome. Show them at once the fallacy of taking work at a greatly reduced price merely for the purpose of getting work. Make a friend of them at once and you will gain more than if you give them the cold shoulder. You cannot legislate these men out of the industry. Therefore, why not gain their friendship from the start and give them the benefit of your valuable fund of knowledge and experience. It is far better to make an efficient business man out of a competitor than to allow him to demoralize the market for your products and services by taking work at prices that prevent his making any money at it.

Certainly the man who has made a success of a business in the sheet metal or warm air heating industries over a period of years and who has tried to keep pace with the advance into the new era has nothing to fear from the newcomer, but has a great deal to gain by showing that newcomer that he is welcome.

## "Dog Days" Are Days for Fall Planning

AUGUST is generally known to business men as the dullest month of the year. In that month come the "dog days" and everything appears to languish from lack of motive head caused by the sultry days.

But these sultry days can be put to much greater use than most sheet metal and warm air heating men are willing to admit. During these dull days the plans for the fall business must be mapped out and got ready to put into execution the very moment that there is the slightest sign of the pickup in business.

The man who has his fall business properly mapped out and ready to spring as soon as there is the slightest sign of a pickup is the man who is going to be awfully busy when others are still groping about trying to find themselves.

Let's not allow the golden opportunity that is opening up before us to slip away unheeded. If business appears to be somewhat slow at the present time, we may rest assured that the inactivity is only temporary and there is bound to be a pickup in the very near future.

Many furnace installers are already beginning to advertise special inducements for the homeowner to have his furnace cleaned and put in order now before the big rush comes on in October.

There is a great deal of business to be had at this time if the furnace man will but make the proper inducements for the homeowner to act at this time instead of later on. Most of the progressive furnace installers find that the surest way of getting into the furnace to inspect it for repairs is through the furnace cleaning route. Now, if ever, is the time to stress this end of the business very strongly. All the work that you can run through the shop at this time will not detract from that which always comes when the fires are started in the fall. The majority of people are procrastinators and they must be dragged out of their lethargy if their work is to be gotten at a time when it is most convenient for you.

# *Determining Heat Losses Through Building Materials**

By L. W. Millis

**IN order to know how much heat (B. t. u.) must be delivered into a room we must know how much heat the room will lose. There are many tables showing how much heat passes through various kinds of building material. The amount of heat that will pass through one square foot where there is a difference of one degree between the inside and outside temperature is called the co-efficient of heat loss for that particular material, and is written C. E. It is the number, or decimal, of the B. t. u. lost per square foot for one degree difference. Tables can, therefore, be constructed giving the co-efficients and the heat lost at various temperatures of all sorts of material and of various combinations of such materials.**

**Table No. 2 shows a few combinations of materials, the C. E. and the B. t. u. loss for one square foot at 50 degrees, as well as at 70 degrees and 90 degrees. Any other difference can be obtained by multiplying the C. E. by the desired temperature difference. Authorities do not agree absolutely on C. E., but the variation is not great.**

**If the co-efficient of various materials is known, the C. E. of two or more in combination can easily be found. The combined resistance is the sum of the reciprocals of the various materials. Example: A ceiling lathed and plastered only, at 70 degrees difference has 43 B. t. u. loss. A wooden floor on joist has 32 B. t. u. loss. Thus 1/43 plus 1/32 equals 75/1376. 1376 divided by 75 equals 17.5 B. t. u. loss. The co-efficient would then be 17.5 divided by 70 degrees, equaling .25.**

**This is "Data Sheet" No. 3, by L. W. Millis, of the Warm Air Study Club, The Security Stove & Manufacturing Company, Kansas City, Missouri, and comprises the third of a series of articles designed to interpret the findings of the University of Illinois Research Staff on warm air heating in the language of the workman. These articles will be published later in pamphlet form.*

Addenda to Sheet No. 3.

**Since this sheet was written the fourth edition of the Standard Code has been issued. Table A page 7 of that edition gives factors for ceiling and roof losses, also for various kinds of walls.**

**The third edition of the code suggested that ceiling losses be calculated at one-half the value of the same amount of net wall. Table A in the fourth edition apparently arrives at the same value by doubling the factor used. The two methods are, therefore, in practical agreement.**

**In many cases of industrial heating, Table No. 2 will be found useful. The fourth edition in Table A, page 7, the following factors to be used in dividing areas for various kinds of walls, ceilings and roofs:**

**TABLE A**

**(The factor 60 used in Art. 3, Secs. 1, 2 and 3, is for buildings constructed as in Item No. 1. When other types of walls are**

**TABLE NO. 2**

**Temperature Difference**

| Material— | 1 degree or C. E. | 50 degrees B.T.U. loss per sq. ft. | 50 degrees Approx. sq. ft. per 1000 B.T.U. | 70 degrees B.T.U. loss per sq. ft. | 70 degrees Approx. sq. ft. per 1000 B.T.U. | 90 degrees B.T.U. loss per sq. ft. | 90 degrees Approx. sq. ft. per 1000 B.T.U. |
|---|---|---|---|---|---|---|---|
| Glass | 1.18 | 59 | 17 | 83 | 12 | 106 | 9 |
| Single windows | 1.00 | 50 | 20 | 70 | 14 | 90 | 11 |
| Double windows | .56 | 28 | 36 | 39 | 26 | 51 | 20 |
| Ordinary doors of glass and wood | 1.00 | 50 | 20 | 70 | 14 | 90 | 11 |
| 8" brick walls | .40 | 20 | 50 | 28 | 36 | 36 | 28 |
| 8" walls furrowed and plastered (one side) | .30 | 15 | 66 | 21 | 48 | 27 | 37 |
| 8" tile, plain | .56 | 28 | 36 | 39 | 25 | 50 | 20 |
| 3" tile and stucco | .54 | 27 | 37 | 38 | 26 | 49 | 20 |
| 12" concrete wall | .45 | 23 | 43 | 32 | 31 | 41 | 24 |
| Wall of studs with 1 side clapboards and 1 side lath and plaster | .44 | 22 | 45 | 31 | 32 | 40 | 25 |
| Wall of studs, clapboards, paper, and 1 side lath and plaster | .31 | 16 | 62 | 22 | 45 | 28 | 36 |
| Wall of studs, clapboards, sheathing, paper and 1 side lath and plaster | .23 | 12 | 83 | 16 | 62 | 21 | 48 |
| Galv. iron siding, flat | 1.20 | 60 | 17 | 85 | 12 | 108 | 9 |
| **Ceilings—** | | | | | | | |
| Lath and plaster only | .62 | 31 | 32 | 43 | 22 | 56 | 14 |
| Lath and plaster and floor above | .25 | 13 | 77 | 18 | 55 | 23 | 43 |
| Unlined metal roof | 1.30 | 65 | 15 | 91 | 11 | 117 | 9 |
| Metal roof on tongue and grooved boards | .17 | 9 | 111 | 12 | 83 | 15 | 66 |
| Single wood on joist | .45 | 23 | 43 | 32 | 31 | 41 | 24 |
| **Miscellaneous** | | | | | | | |
| 1 cu. ft. air per hour | .016 | .8 | | 1.27 | | 1.44 | |

1/16" crack 1 ft. long loses 1.2 and 1/8" crack loses 2.4 B.t.u.

**used, substitute the appropriate factor as given below.)**

**No. 1 Frame wall constructed of siding, paper, sheathing, studding, lath and plaster.. 60**

**No. 2 Frame wall constructed of siding or stucco direct to sheathing (no paper), lath and plaster ..... 52**

**No. 3 9″ brick wall (no plaster ..... 40**

**No. 4 9″ brick wall, plastered one side ..... 48**

**No. 5 9″ brick wall, air space, furred and plastered..... 65**

**No. 6 13″ brick wall, no plaster ..... 53**

**No. 7 13″ brick wall, plastered one side ..... 57**

**No. 8 13″ brick wall, air space, furred and plastered..... 75**

**No. 9 4″ brick, 4″ hollow tile, plastered ..... 55**

**No. 10 4″ brick, paper, sheathing, studding, lath and plaster (brick veneer)..... 68**

**No. 11 8″ hollow tile, stucco and plaster ..... 67**

**No. 12 8″ hollow tile, stucco, furred and plastered..... 90**

Roofs.

**No. 13 1″ T & G sheeting, tar and gravel ..... 48**

**No. 14 1″ T & G sheeting and composition roof ..... 40**

**No. 15 1″ T & G sheeting and tin ..... 24**

**No. 16 corrugated Iron on strips ..... 9.3**

Ceilings.

**No. 17 lath and plaster without floor above..... 50**

**No. 18 lath and plaster with tight floor above..... 90**

**No. 19 metal without floor above ..... 40**

**No. 20 metal with tight floor above ..... 70**

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### Exhibit Demonstration and Fan Heating Convention to Create Much Interest August 30 and 31

Hereinafter is published the program of events as they have been scheduled to be carried out at the coming exhibit, demonstration and fan heating convention of Heat-O line of fans, boosters, unit heaters, Heating Systems Division of the Robinson Furnace Company, to be held at the Hotel Sherman, Chicago, Tuesday and Wednesday, August 30 and 31, 1927.

**Tuesday, August 30**

9 a. m.—Inspection of exhibit.

"The Advantages of Furnace Fans to the Warm Air Heating Industry," R. W. Menk, Heating Systems Division, Robinson Furnace Company, Chicago.

12:30—Luncheon.

2 p. m.—"The Heat-O Line and Its Development," H. D. Walker, Heating Systems Division, Robinson Furnace Company, Chicago.

"Trunk Line and Fan Blast Heating," Platte Overton, heating and ventilating engineer, Herbert H. Davis Company, Inc., Chicago.

"What We Have Learned About Fans and Blowers Through Our Experience with the Heat-O Line," E. W. Peterson, American Blower Company, Chicago.

General discussion.

Adjournment.

**Wednesday, August 31**

9 a. m.—Inspection of exhibit.

"The Importance of the Motor to the Fan," L. Dean Fowler, General Electric Company, Chicago.

"The Unit Heater and Its Selling Opportunities in the Industrial Field," R. W. Menk, Heating Systems Division, Robinson Furnace Company, Chicago.

Discussion.

12:30 p. m.—Luncheon.

2 p. m.—"A Dealer's Experience with Furnace Fans," Emory Wales, Round Oak Heating Company, Evanston, Illinois.

"What the Booster Has Done for the Gravity Furnace Installation," by a man you will be glad to hear.

General discussion.

5 p. m.—Adjournment.

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### Help the Buyer to Buy Your Goods, Says the Anchor Man

Two kinds of business men exist, those who guide the consumer's buying tendencies and those who do not, says the Anchor Man. Showrooms with goods distinctly priced, salesmen well informed, window displays that attract; all are distinguishing marks of the first kind of merchant. But, unless that man goes beyond his own door step into consumer's home, he falls short of a complete job.

What about the consumer? Some know they want warm air heating service, others do not. The chap who receives attractive literature and convincing letters which guide his thought and attention toward a more enjoyable life through the use of an automobile, radio, frigidaire, etc., is not thinking much about your wares. Yet, you can add physical comfort to his family, save the women folks much exertion and increase the salability of his property.

To be among those who lead all available business to their door you must plan to reach every possible prospect—the consumer who has not realized his need. A neat letter from you enclosing a descriptive pamphlet of any one of the many things which make life healthful, easier and increases the value of a man's home will develop his interest in your goods. Remember a man does not always act on the first suggestion. You may have him on the verge of decision, but the stake —a sale—will be lost, unless you again assist him to buy from you.

Resolve to be among the doers, direct your brain power into this sea of indecision where other merchants are crowding you into the background. The time was never better for you to render such a valuable service to your fellow man

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### Trouble an Essential Part of Life Which Should Not Surprise Us

The only man who does not have trouble is dead. Trouble is an angel of God to lead us to better things. It always makes us better or bitter.

Through discipline, work and fellowship it brings out the best in us. The first step to get happiness out of trouble is to regard it an essential part of life, not an excrescence, and never let it surprise us. Then we must tackle it promptly, intelligently and vigorously, knocking it out as does a prize-fighter his antagonist.

Above all, we must be in tune with the infinite through thanksgiving, worship and praise and thus turn the trouble of life into the music of happiness.

# Collections for Warm Air Furnace Work Made Easy When Gone About in Proper Manner

## Sheet Metal Contractor in Eastern City Takes Tips from Department Stores

ONE great difficulty which most sheet metal and warm air heating contractors experience in their daily business is making collections —getting their money for the work they have done. In most cases the contractor is a good workman. He has become so by long experience at the bench, but when it comes to making collections he in many cases does not know how to go about it; he does not understand the workings of his bank and the practices of his banker and, therefore, does not employ the services of these institutions to assist him in the conduct of his business.

However, making collections is a fairly simple undertaking when it is gone about in the proper manner. And in this connection the sheet metal contractor and warm air heating installer might well take a lesson from the automobile, radio and department store methods of handling the deferred payment problem.

One furnace installer located in an eastern city (he prefers to have his name omitted) has worked out a method of making collections which practically eliminates the no-pay customer. In this plan his main idea has been to create the impression in the mind of the customer that he (the customer) is making his payments to the bank and not to the furnace installer, which naturally makes for promptness in payments. In reality, however, the customer does not make the payments to the bank at all, but to the furnace installer. How this plan has been worked out by this furnace installer is outlined by him hereinafter. He says:

To.....

**Payment on your Note and Carrying Charges**

**For $.....will be due**

**On ..... 192.....**

**At .....**

**Bring or send this notice at time of making payment.**

**Kindly make payments on or before above date.**

**Calling Attention to Payments Due**

"From our past experiences with this deferred payment business we find our present plan much more desirable than to handle it through the manufacturer or finance company; the charges are smaller for one

**No.** .....

**Due** .....

**Note $**.....

**Int.** .....

**Net $**.....

.....

.....

.....

.....

**$**..... **City State** .....**192**...

.....**after date I, or we promse to**

**Pay to the order of** **NAME**

..... Dollars
100

**at** ..... **City State**

WITHOUT DEFALCATION, VALUE RECEIVED, WITH INTEREST.

And further I, or we, do hereby empower any Attorney of any Court of Record to appear for me, or us, and with or without declaration filed confess judgment against me or us for the above sum, with costs of suit, release of errors, and without stay of execution, and with five per cent added as part of the judgment, for attorney's fees for collection, said fees to be liquidated damages, and become due and payable immediately after the maturity of the note without demand of the debt proper, which is hereby waived. And I, or we, hereby waive the right of inquisition and extension, and agree to the condemnation of any real estate levied on by virtue of any writ of execution issued hereon, and agree to the sale of said real estate on any Fi. Fa., and I, or we, hereby waive all benefits of the exemption laws of this commonwealth on any levy on real or personal property made by virtue of any execution hereon, and no benefits of exemptions or stay law shall be claimed.

Witness.....**Hand and Seal**

.....[SEAL]

.....[SEAL]

.....[SEAL]

**Form Used Which Binds Customer to Agreement**

thing, and in case the purchaser runs a few days delinquent he will not receive a harsh, sarcastic letter.

"We formerly used a series of notes, which we discounted at the bank, having one note fall due every thirty days over a period of twelve months. This plan was not desirable, as it was a continual source of loss to the bank. A twenty-five dollar note for thirty days at six per cent did not net the bank what it cost them to handle it. It costs the bank thirty cents for posting, mailing out the notice, and so on. The most they were permitted to charge was twenty-five cents. So you see the loss they had to charge up to good will.

"They, therefore, suggested to us the system that we now use, and we find it very successful. We draw up a contract in the usual form, setting forth the date and amounts of payment. Then we have the customer sign a judgment note for the entire balance. To the balance we add six per cent for interest for one year. For instance, if the note is for $300, we add $18, making the unpaid balance $318. This we then divide by twelve, making twelve monthly payments of $26.50. This arrangement, you see, nets us a little extra profit.

"We then place these notes in the bank for collection and send out our notices of payment due. One of these notices is herewith reproduced. The customer goes to the bank and makes his payments. We find that they are very prompt in making the payments, as they imagine that they owe the bank, when in reality they owe us.

"In case we need funds to meet our bills we borrow what we need for thirty periods, using these notes as part collateral and giving such additional collateral as the bank desires. We have never had any difficulty in borrowing any reasonable amount from the banks.

"Many furnace and sheet metal men seem to nurse a grudge against the banks, which I think is for purely imaginary reasons. Banks are just as anxious to accommodate their trade as anyone else, but they are compelled to conduct their business in accordance with the various regulations.

"One little statement by a bank explains just why some people are unable to borrow money at banks, and it might do some of our fellows some good to have this explained to them through your paper. This statement follows:

**Does His Bank Balance Justify the Loan?**

After the Bank Examiner had carefully scrutinized each loan with reference to its security, he then turned to the ledger and made a record of the borrower's bank balance. Why? Because the Banking Department is insisting that the borrower must have a sufficient bank balance to justify the loan. And what do they consider a sufficient balance? Their figures show that unless the customer carries at least $200 in his checking account, the bank loses money on that account in providing checks, bank books, deposit tickets, clerk hire and overheads. No customer is entitled to credit if his account is costing the bank money.

HOW IS CREDIT GAUGED? If the borrower's security is good, the depositor is entitled to a credit equal to five times his bank balance. Therefore, if a customer carries a balance of $200 he is entitled to a credit of $1,000; $500 balance equals $2,500 credit; $1,000 balance entitles a $5,000 credit, etc.

DOES HIS BANK BALANCE JUSTIFY THIS LOAN? How can we answer the examiner if the borrower does not have an account with us or if his balance is very small? In some cases the examiner is insisting upon substantial reductions, while in other cases he says we must call the loan. Why? BECAUSE THE BANK BALANCE DOES NOT JUSTIFY THE LOAN.

A little tip on credit—it is far better to keep a worth while bank balance than to rob your checking account for the purpose of making a reduction on a loan. Nothing kills your credit faster than past due notes and a costly bank account. Credit is a valuable asset —NURSE IT.

"You will also note that we have the customer sign a final acceptance that the work done was satisfactory. This eliminates a lot of quibbling when payment is due, and deprives the customer of a defense if he wants to contest a bill in court. It is always handed to them for signature after completion of work,

# FINAL ACCEPTANCE

Name, City State City State .....192...

We have examined the work done by your mechanic as follows:

Being entirely satisfactory and in accordance with order or agreement.

ORDER No. .....

HOURS TIME ..... .....

MECHANIC ..... .....

**Customer Signs This When Job Is Complete, Thereby Registering His Satisfaction with the Job**

when they are in the best humor to sign it.

"In order to simplify our office work with these deferred payment notices we arrange all payments due on the same day of the month, because we can fix up a dozen just as quickly as one or two, and it is much more convenient for the bank to have them all come in on the same day to make their payments. Each payment is placed in a separate envelope with the person's name making the payment on it, and a few days afterwards we take our pass book to the bank. They then enter a credit on our book for the total amount of the payments."

# Agricultural Price Trend Shows Important Advances

## Condition Will Tend to Narrow Unfavorable Spread Between Agricultural and Non-Agricultural Commodities

THE following is a survey of general business conditions by the National City Bank of New York: The business of the country at the turn of the half year is moving in good volume, though with indications of unevenness here and there which reflect the presence of some retarding influences. While figures on electric power consumption and bank clearings indicate production and trade to be still running at record-breaking levels, the recent decline in steel activity to levels somewhat below those of a year ago and a moderate falling off in railway shipments of merchandise and less-than-car-lot freight give evidence of recessions in some quarters which are not altogether seasonal. On the other hand, account must be taken of the fact that business has a great deal to contend with in the form of floods and unseasonable weather for trade, while unemployment resulting from the coal strike and the reduction of activity in the automobile industry has doubtless been a handicap in the regions affected. These conditions, however, are not in themselves important enough to interfere with the usual expansion of trade in the fall months, which we look forward to with confidence.

The Mississippi flood is now past its crisis, and Secretary Hoover is quoted as placing the economic loss at between $200,000,000 and $400,000,000, with 600,000 persons driven from their homes and made dependent upon relief. Measured against the total resources of the country, however, the damage assumes a much less formidable aspect. Considerable alarm was felt a year ago over the possible consequences of the fall in the price of cotton, which it was calculated would inflict still larger losses upon the South than those now named in connection with the flood, but no such ill effects as were feared have taken place. According to an estimate by the Southeast Shippers' Advisory Committee to the railroads, business in the South Atlantic States during the third quarter will run 10 per cent ahead of that of the corresponding quarter of last year.

In the steel industry the summer recession has carried operations down to 70 per cent of capacity, and buyers have become even more cautious, if possible, than in the past. Unfilled orders under the current regime of hand-to-mouth purchasing have fallen off to the lowest level since 1910. According to the Iron Age, however, no further pronounced dip in buying is expected, though the swing downward in production may be further extended.

Automobile manufacturing is having more than a seasonal decline, the production in May being smaller than in May of either 1926 or 1925. The industry, however, is looking forward to a revival in the second half of the year when the new models are out. Keen competition is expected and there may be another turn in the fortunes of individual companies, but the aggregate business done should be large and may yet set a record for 1927, with consequent benefit to the steel, tire, copper, glass, and other industries dependent in varying degree upon activity in motor manufacturing.

While developments such as growing competition in the motor field, the serious over-production in oil, indications of retrenchment in the motion picture industry, and increasing competition in numerous other lines that have been going ahead unusually fast are giving business men a good deal to think about, it is important to note that building is still holding at high levels, while cotton goods, rayon, hides and leather, and tires are enjoying improved prospects. Thus it is that despite readjustment in individual industries the general average of business is being sustained.

Probably the greatest handicap that business has had to face has been the weather. Excessive rains and unseasonable temperatures have hurt retail trade and resulted in a backward season in agriculture. In the absence of any fundamental reason for an impairment of consumer purchasing power, the retail situation should clear up with good weather, but the damage to agriculture may be more lasting. While the outlook for the small grains and for cotton is good, the corn season is so delayed as to give cause for apprehension. A short corn crop, carrying in its train high feed and meat prices and general disorganization of agricultural economy throughout the corn belt, would be a

serious blow to that section, which is only just beginning to recover from the effects of the short corn crop of 1924.

**The Trend of Prices**

Reflecting the prospects for smaller crops, agricultural prices have shown important advances, thus narrowing the unfavorable spread which has existed between agricultural and non-agricultural commodities. While the results to the farmer are uncertain, by reason of the smaller yields, the movement is significant as perhaps reflecting the turning point in agricultural prices. For the first time since 1924 agricultural commodities have become an attractive speculation for the rise, and to some extent at least the increases reflect a real gain in agricultural purchasing power. That the state of unbalance between agriculture and industry would sooner or later be rectified has been inevitable. Moved by the disparity of return, capital and labor that could be spared from the farms have been gradually turning away from agriculture and into industry which means that fundamental factors have been slowly shaping themselves for an improvement in agriculture, quite apart from price changes in which the weather has been a factor.

Largely because of the rise in farm products, which has offset declines in other commodities, the price indexes give evidence of a stability that is somewhat misleading. Apart from the rise in the grains and cotton there is no evidence that the gradual downward trend of prices has been checked. In fact a number of important commodities have shown further declines. Included among these are copper, lead, rubber, silk, coffee, and pig iron, while steel prices are none too firmly established at the present levels, which are below those of a year ago.

Whether or not the coal strike will eventually become a factor in prices remains to be seen, but the first three months of the lay-off have caused no disturbance

**Milcor Has New Catalog on ¾-Inch Stay Rib Reinforcing Lath**

The Milwaukee Corrugating Company announces the appearance of its new Catalog No. 20-D, devoted exclusively to Milcor ¾-inch Stay-Rib reinforcing lath. This catalog is a supplement to the 1927 edition of the Milcor manual, and is essentially a technical data book for architects, engineers and contractors, showing Milcor methods and products for firesafe, reinforced concrete construction.

Stay-Rib Reinforcing Lath No. 3 is a new Milcor product, and this catalog describes the tests to destruction to which it has been subjected to determine its merits. These tests to destruction were made on Milcor ¾-inch Stay-Rib No. 3 and on three other brands of rib lath which had more ribs, spaced closer together, and consequently less mesh area than Milcor ¾-inch Stay-Rib No. 3.

This catalog proves conclusively that Milcor ¾-inch Stay-Rib No. 3 possesses ideal qualities of stiffness, mesh and bond; it carries the wet concrete without sagging; the mesh is close enough to prevent loss or dripping of concrete, and the mesh is open enough to allow a perfect bond between the lath and the concrete.

Architects, engineers, contractors and others interested in this new Milcor concrete reinforcing product may secure Catalog No. 20-D on Milcor Reinforcing Rib Lath, ¾-inch Stay-Rib No. 3, by writing to the Milwaukee Corrugating Company, Milwaukee, Wisconsin.

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**Texas Sheet Metal Auxiliary Seeking New Members**

Every dealer who supplies Texas contractors is wanted as a member of the auxiliary, John Maxwell, secretary of the auxiliary, said, according to the latest Texas Sheet Metal Contractors' Association Bulletin. A campaign is now on to get new members.

Letters will also be sent to every supply house that sells material to Texas contractors.

In an effort to gain new members for the Contractors' Association, rubber stamps will be sent to each auxiliary member to use on invoices. This stamp will read: "We are members of the auxiliary. Do you belong to the Texas Sheet Metal Contractors' Association?"

If you should belong to the auxiliary and haven't joined, don't wait for a letter, but send in your check for $5.00 to the auxiliary secretary now.

American Hardware Manufacturers' Association, Atlantic City, New Jersey, October 17 to 20, 1927. Headquarters Marlborough-Blenheim Hotel. Charles F. Rockwell, 342 Madison Avenue, New York City, Secretary.

National Hardware Association of the United States, Atlantic City, New Jersey, October 17 to 20, 1927. George A. Fernley, 505 Arch Street, Philadelphia, Secretary.

Metal Branch National Hardware Association of the United States, Atlantic City, New Jersey, Tuesday afternoon, October 18, 1927. Headquarters, Marlborough-Blenheim Hotel. F. O. Schoedinger, Columbus, Ohio, Chairman.

National Warm Air Heating and Ventilating Association, Mid-year meeting, Urbana, Illinois, November 30 and December 1, 1927. Urbana-Lincoln Hotel headquarters. Allen W. Williams, 174 East Long Avenue, Columbus, Ohio, Secretary.

## Retail Hardware Doings

**Iowa**

Ole Julien has purchased the Tatum Hardware store, Manley.

**Illinois**

L. O. Woods of Morrison has discontinued his hardware business.

**Kansas**

F. H. Powell has purchased the Roberts and Helfrey hardware store, Emporia.

The Weinhold Hardware Company, 609 Minnesota Avenue, Kansas City, was purchased by W. R. Coffman.

**Michigan**

The I. L. Warnes Hardware store, Blissfield, has gone out of business.

The Siegmund Brothers Hardware store, New Buffalo, has opened for business.

**Minnesota**

W. L. Van Fleet has taken over the Frickson and Marken Hardware store, Watson.

**Nebraska**

A. J. Lepper of Nelson has purchased the Pioneer Hardware stock.

# Moderate Improvement in Steel Market Checked—Demand for Structural Steel Is Heavy

## Pig Iron Market Shows Little Change—Demand for Nonferrous Metals Drops

THE prospect proved better than the performance in most finished steel lines the past week. The moderate improvement which has characterized the markets since mid-July all but succumbed to midsummer inertia, but producers appear to be holding the slight gains of previous weeks and to be no less confident that the trend in demand is definitely, although sluggishly, upward.

Disappointment arises chiefly in the failure of automotive schedules to rebound as expected, and August steel shipments to the industry may not exceed those of July. Demand for structural material, on the other hand, is surprisingly heavy. Individually, orders for steel show a gain over thirty days ago, but the products involved do not run up into tonnage.

Steelmaking must be stepped up the remainder of the month if the tradition of an increase in August is to be maintained.

**Pig Iron**

Tonnage inquiries at Pittsburgh are absent in the pig iron market. A few producers are uncovering inquiries through brokers for 200 to 500 tons each of the different foundry grades. While some producers still quote $18, valley, for No. 2 plain, the group having $17.50 as its minimum on the base grade has at least one new recruit; $17.50 has been the market minimum for a month or more since an electrical equipment manufacturer paid that price.

Several quiet deals between consumers and regular sources of supply have been closed at $17.50 to $18, valley. Small lots of Bessemer are selling at $18.50, valley. Basic is wholly nominal at $17.50, valley, in the absence of inquiries and sales.

At Chicago several important inquiries for third quarter pig iron and for tonnages for the remainder of the year are out, but spot buying is light following the placement of heavy tonnages at the time of the recent reduction of foundry and malleable to $19.50.

A northern Illinois melter closed on 1,300 tons of foundry at a price understood to be $19.50, Chicago furnace. Several buyers are withholding tonnage at $19.50, but offering to place at $19. This totals 46,000 tons. Sellers are holding firmly at $19.50.

The pig iron market at Birmingham is unchanged as to demand and price. No. 2 foundry is firm at $17.25. The lower price has brought a little additional business.

Melters are not inclined to change their policy of buying hand-to-mouth, convinced that before the price is advanced sufficient notice will be given.

**Copper**

Buying of copper has been light in the past week and, in fact, almost totally absent in the past few days. Users covered their needs well for August and to a certain extent into September, and so were doubly disposed to sit back and watch when they saw London prices going down.

Producers also were ready to sit back and wait rather than let their prices down, as they were well booked, not only on account of good domestic business, but more especially on account of unusually large export business in the past few months.

**Lead**

Buying of lead has been large of late, but in the past few days buyers have held off on account of easiness abroad. They are waiting to see whether the break abroad will force lower prices here.

**Tin**

Tin has gone up rapidly and for several days held close to its top price, but on Monday the London tin market joined with the other metals in the overseas center and went down drastically, especially on nearby. However, even the Monday prices here remained well above the low prices of a month ago.

**Zinc**

About a week ago the zinc market was active, mostly for August shipment, but since then there has been little demand. Under the influence of lower prices abroad the market has sagged a little, but some producers have been out of the market and there has been little pressure to sell.

Sales were made as high as 6.45 cents, East St. Louis, for prime western, a recovery from 6 cents in May, the lowest in several years, and then it eased off to 6.35 cents. High grade can be had at 8 cents delivered, unchanged.

**Solder**

Chicago warehouse prices on solder are as follows: Warranted 50-50, $40.25; commercial 45-55, $37.25; plumbers', $34.25, all per 100 pounds.

**Old Metals**

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, $17.00 to $17.50; old iron axles, $20.00 to $20.50; steel springs, $15.00 to $15.50; No. 1 wrought iron, $12.00 to $12.50; No. 1 cast, $12.75 to $13.25, all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 9 cents; zinc, 3½ cents; cast aluminum, 13¾ cents.

# The WHY of Linde Welding Service

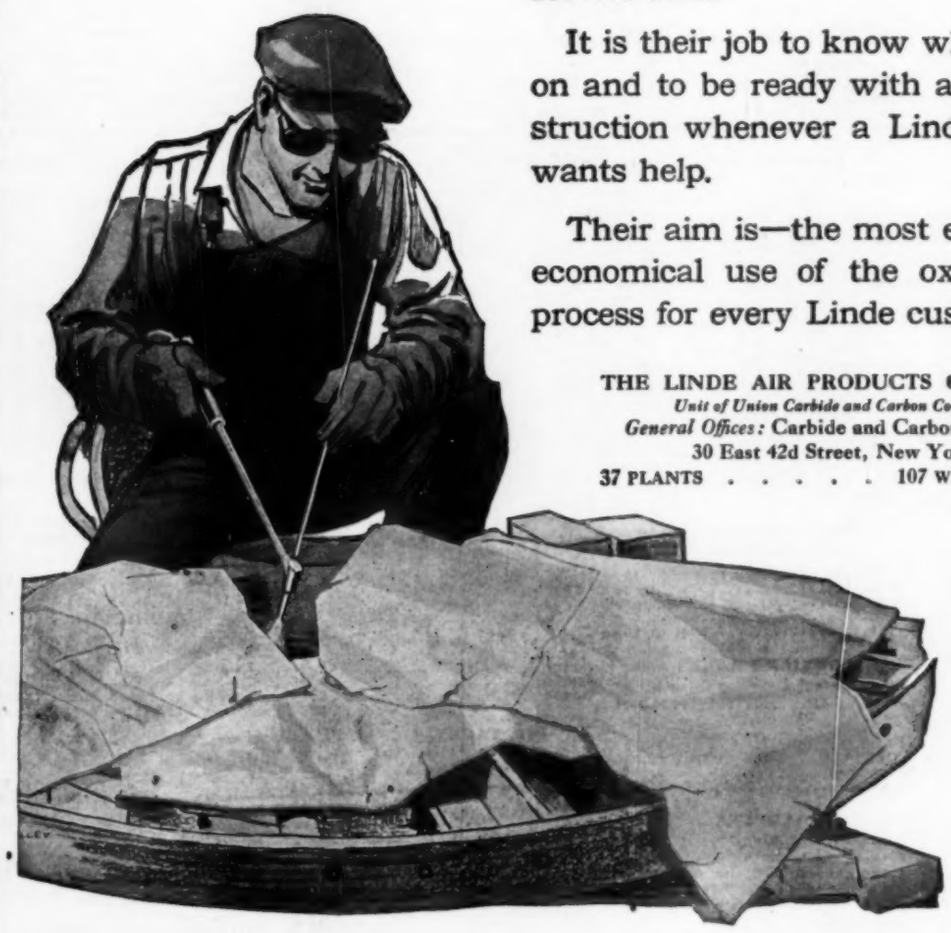
IN A FIELD that is developing and has developed as rapidly as that of oxy-acetylene welding and cutting, it is impossible for even the most alert welder or engineer to keep abreast of new developments.

That is one of the reasons for Linde's service staff.

It is their job to know what is going on and to be ready with advice or instruction whenever a Linde customer wants help.

Their aim is—the most efficient and economical use of the oxy-acetylene process for every Linde customer.

THE LINDE AIR PRODUCTS COMPANY
*Unit of Union Carbide and Carbon Company*
*General Offices:* Carbide and Carbon Building
30 East 42d Street, New York
37 PLANTS . . . . . 107 WAREHOUSES



# LINDE OXYGEN

# Chicago Warehouse Metal and Furnace Supply Prices

**AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.**

## METALS

### PIG IRON

Chicago Fdy., No. 2.....$19 50
Southern Fdy. No. 2..... 23 26
Lake Superior Charcoal.... 27 04
Malleable ..... 19 50

### FIRST QUALITY BRIGHT TIN PLATES

IC 20x28 112 sheets...$25 10
IX 20x28..... 29 60
IXX 20x28 56 sheets.... 16 20
IXXX 20x28..... 17 55
IXXXX 20x28..... 18 95

### TERNE PLATES

Per Box
IC 20x28, 40-lb. 112 sheets $26 00
IX 20x28, 40-lb. 112 sheets 28 50
IC 20x28, 25-lb. 112 sheets 21 75
IX 20x28, 25-lb. 112 sheets 24 25
IC 20x28, 20-lb. 112 sheets 20 00
IV 20x28, 20-lb. 112 sheets 22 50
IC 20x28, 15-lb. 112 sheets 18 50

### "ARMCO" INGOT IRON PLATES

No. 8 ga. up to and including ¼ in.—100 lbs.....$4 55

### COKE PLATES

Cokes, 80 lbs., base, 20x28..$13 60
Cokes, 90 lbs., base, 20x28. 13 80
Cokes, 100 lbs., base, 20x28. 14 00
Cokes, 107 lbs., base, IC 20x28 ..... 14 30
Cokes, 135 lbs., base IX 20x28 ..... 16 40
Cokes, 155 lbs., base, 56 sheets ..... 9 20
Cokes 175 lbs., base, 56 sheets ..... 10 05
Cokes, 195 lbs., base, 56 sheets ..... 10 90

### BLUE ANNEALED SHEETS

Base 10 ga.....per 100 lbs. $3 50
"Armco" 10 ga..per 100 lbs. 4 00

### ONE PASS COLD ROLLED BLACK

No. 18-20.....per 100 lbs. $3 75
No. 22.....per 100 lbs. 3 90
No. 24.....per 100 lbs. 3 95
No. 26.....per 100 lbs. 4 05
No. 27.....per 100 lbs. 4 10
No. 28.....per 100 lbs. 4 20
No. 29.....per 100 lbs. 4 35
No. 30.....per 100 lbs. 4 45

### "ARMCO" GALVANIZED

"Armco" 24.....per 100 lbs. $6 15

### GALVANIZED

No. 16.....per 100 lbs. $4 30
No. 18.....per 100 lbs. 4 45
No. 20.....per 100 lbs. 4 60
No. 22.....per 100 lbs. 4 65
No. 24.....per 100 lbs. 4 80
No. 26.....per 100 lbs. 5 05
No. 27.....per 100 lbs. 5 15
No. 28.....per 100 lbs. 5 30
No. 30.....per 100 lbs. 5 70

### BAR SOLDER

**Warranted**
50-50 .....per 100 lbs. $40 25

**Commercial**
45-55 .....per 100 lbs. 37 25
Plumbers ....per 100 lbs. 34 25

### ZINC

In Slabs .....$ 8 50

### SHEET ZINC

Cash Lots (600 lbs.).....$12 00
Sheet Lots ..... 13 00

### BRASS

Sheets, Chicago base.....17¾c
Mill Base .....18c
Tubing, brazed base.....26¾c
Wire, base .....18¼c
Rods, base .....15½c

### COPPER

Sheets, Chicago base.....22c
Mill Base .....21c
Tubing, seamless base.....25c
Wire, No. 9, B & S Ga....18¼c
Wire, No. 10, B & S Ga....18¼c
Wire, No. 11, B & S Ga....19c
Wire, No. 8, B & S Ga. and heavier .....17¾c

### LEAD

American Pig .....$7 65
Bar ..... 8 65

### TIN

Big Tin .....per 100 lbs. $72 00
Bar Tin .....per 100 lbs. 73 00

## HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

### ASBESTOS

Paper up to 1/16.....6c per lb.
Roll board .....6¼c per lb.
Mill board 3/32 to ⅛....6c per lb.
Corrugated Paper (250 sq. ft. to roll)....$6 00 per roll

### BRUSHES

**Hot Air Pipe Cleaning**
Bristle, with handle, each $0 85

**Flue Cleaning**
Steel only, each..... 1 25

### BURRS

Copper Burrs only.....40-5%

### CEMENT, FURNACE

American Seal, 5-lb. cans, net $ 40
American Seal, 10-lb. cans, net 80
American Seal, 25-lb. cans, net 2 00
Pecora .....per 100 lbs. 7 51

### CHIMNEY TOPS

**Adams' Revolving**

| | Wt. Doz. | Prize Doz. |
|---|---|---|
| 4 in | 21 lbs. | $11 00 |
| 6 in | 24 lbs. | 11 50 |
| 7 in | 30 lbs. | 13 50 |
| 8 in | 33 lbs. | 15 00 |
| 9 in | 51 lbs. | 16 50 |
| 10 in | 56 lbs. | 18 00 |
| 12 in | 66 lbs. | 22 00 |
| 14 in | 110 lbs. | 36 00 |

### CLINKER TONGS

Front Rank, each.....$0 75
Per doz. ..... 8 40

### CLIPS

**Damper**
Acme, with all tail pieces, per doz. .....$1 25
Non Rivet tail pieces, per doz. ..... 25

### COPPERS—Soldering

**Pointed Roofing**
3 lb. and heavier.....per lb. 40c
2½ lb. .....per lb. 45c
2 lb. .....per lb. 48c
1½ lb. .....per lb. 55c
1 lb. .....per lb. 60c

### CORNICE BRAKES

**Chicago Steel Bending**
Nos. 1 to 6B.....Net

### CUT-OFFS

Gal., plain, round or cor. rd.
26 gauge .....30%
28 gauge .....35%

### DAMPERS

**"Yankee" Hot Air**
7 inch, each 20c, doz.....$1 75
8 inch, each 25c, doz..... 2 40
9 inch, each, 30c, doz..... 2 75
10 inch, each 32c, doz..... 3 00

**Smoke Pipe**
7 inch, each.....$0 35
8 inch, each..... 40
9 inch, each..... 50
10 inch, each..... 60
12 inch, each..... 90

**Reversible Check**
8 inch, each.....$ 56
9 inch, each..... 70

**Diamond Smoke Pipe**
7 inch, doz.....$ 5 00
8 inch, doz..... 8 00
9 inch, doz..... 12 00
10 inch, doz..... 15 00

**Adams' Sheet Metal**
7 inch, doz.....$ 1 60
8 inch, doz..... 2 20
9 inch, doz..... 2 60
10 inch, doz..... 2 80

### DIGGERS

**Post Hole**
Iwan's Split Handle (Eureka)
4-ft. Handle...per doz. $14 00
7-ft. Handle...per doz. 36 00
Iwan's Hercules pattern, per doz. ..... 14 90

### EAVES TROUGH

Galv. Crimpedge, crated 75 & 5%
Zinc, "Barnes" .....60%

### ELBOWS

**Conductor Pipe**
Galv., plain or corrugated, round flat Crimp.
28 Gauge .....60%
26 Gauge .....45%
24 Gauge .....15%

**Galv. & Terne Steel**
Plain Rd. and Rd. Corr.:
28 Ga. .....60%
26 Ga. .....45%
24 Ga. .....15%

**Square Corrugated**
No. 28 Gauge.....50%
26 Gauge .....35%

**Portico Elbows**
Standard Gauge Conductor Pipe, plain or corrugated.
Not nested .....70 & 5%
Nested solid .....70 & 5%

**Sq. Corr., A. & B. & Octagon:**
28 Ga. .....50%
26 Ga. .....35%

**Portico**
1", 1¼", 1½".....45%

**Copper**
16 oz., all designs.....45%

**Zinc—**
All styles .....60%

### ELBOWS—Stove Pipe

| 1-piece Corrugated. Uniform Blue "Milcor" No. 28 Gauge. | Doz. |
|---|---|
| 5-inch | $1 25 |
| 6-inch | 1 35 |
| 7-inch | 1 75 |

**Special Corrugated**
6-inch ..... $1 00
7-inch ..... 1 60

**Adjustable—Uniform Blue**
"Milcor" No. 28 Gauge. Uniform Blue.
5-inch ..... $1 75
6-inch ..... 1 85
7-inch ..... 2 15

**WOOD FACES**—50% off list.

### FENCE

726-6-12½% (100 rods)....$28 68
1948-6-14½% (100 rods).... 43 62

### FILES AND RASPS

Heller's (American) .....50-10%
American .....60-10%
Arcade .....50%
Black Diamond .....50%
Eagle .....50%
Great Western .....50%
Kearney & Foot.....50%
McClellan .....50%
Nicholson .....50%
Simonds .....60%

### FIRE POTS

**Clayton & Lambert's**
East of west boundary line of Province of Manitoba, Canada, No. Dakota, So. Dakota, Nebraska, Kansas, Oklahoma, Amarillo, San Angelo and Laredo, Texas .....52%
West of above boundary....42%

**Geo. W. Diener Mfg. Co.** Ea.
No. 02 Gasolene Torch, 1 qt. .....$ 5 55
No. 0250, Kerosene, or Gasolene Torch, 1 qt.. 7 50
No. 10 Tinner's Furn. Square tank, 1 gal..... 12 60
No. 15 Tinner's Furn. Round tank, 1 gal..... 12 00
No. 21 Gas Soldering Furnace ..... 3 60
No. 110 Automatic Gas Soldering Furnace ..... 10 50

**Double Blast Mfg. Co.**
Gasolene, Nos. 25 and 36...60%

**Quick Meal Stove Co.**
Vesuvius, F. O. B. St. Louis 30%
(Extra Disct. for large quantities)

### GALVANIZED WARE

Pails (Galv. after made), 10-qt. .....$2 12
Tubs (Galv. after made).
No. 1 ..... 6 00
No. 2 ..... 6 85

### GLASS

Single Strength, A, 25-in. brackets .....87%
Single Strength, A, 34 to 40-in. bracket .....86%
Single Strength, A, all other brackets .....86%
Double Strength, A, all sizes..86%

### HANGERS

**Conductor Pipe**
Milcor Perfection Wire.....25%

**Eaves Trough**
Milcor Eclipse Wire .....15%
Milcor Triplex Wire .....10%
Milcor Milwaukee Extension 10%
Milcor Steel (galv. after forming) List....plus 12½%
Milcor Selflock E. T. Wire, List ..... plus 50%

### HOOKS

**Box**
V. & B. No. 1, each.....$0 26

**Conductor**
"Direct Drive" Wrought Iron for wood or brick..15%

**Hay**
V. & B. No. 1, each.....$0 26

### HUMIDIFIERS

**"Front-Rank," Automatic**
In single lots .....50%
In lots of 10 or more....50-5%
In lots of 25 or more...50-10%
Vaper pans, etc., each.....50%

### LIFTERS

**Stove Cover**
Coppered .....per gro. $6 00
Alaska .....per gro. 4 75

### MALLETS

**Tinners**
Hickory .....per doz. $2 25

### MITRES

Galvanized steel mitres,
28 Ga. .....70
26 Ga. .....60-20

### NAILS

Cut Steel .....$4 25
Cut Iron ..... 4 35

**Wire**
Common ..... 2 95
Cement Coated ..... 2 95

(Continued on Page 80.)

**The above advertisement, which appeared in a recent issue of Saturday Evening Post, brought home vividly the dramatic "Rust-Fire" story to more than three million sheet metal buyers . . . Industrial executives, purchasing agents, homeowners—all of whom are sheet metal prospects.**

ARMCO INGOT-IRON — SHOP — Quality Work with Quality Iron

Whether you are situated in Portland, Maine, or San Diego, California, your customers and prospects know about "Rust-Fire." They know the damage it causes, if left unchecked. They know, perhaps from experience, of the upkeep cost it involves. Small wonder, then, that they welcome the protection which rust-resisting ARMCO Ingot Iron assures.

But, are these sheet metal buyers coming to *your* shop for "quality work with quality iron"? Of course, if yours is not an Ingot Iron Shop, that's a handicap to start with . . . even if you do stock ARMCO Ingot Iron. For most people are guided by the blue and white sign. It's easier, and safer.

If you use ARMCO Ingot Iron but don't capitalize on the "Sign" and the many other advertising aids available to Ingot Iron Shops, you are probably missing some business that might have come your way. Ask the Secretary of Ingot Iron Shops (Middletown, Ohio) about this.

# ADVERTISERS' INDEX

**The dash (—) indicates that the advertisement runs on a regular schedule but does not appear in this issue.**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Chicago Solder Co. — 
Clayton & Lambert Mfg. Co. 83
Cleveland & Buffalo Transit Co. 53
Cleveland Castings Pattern Co. 53
Colburn Heater Co. — 
Connors Paint Co., Wm. 53
Cortright Metal Roofing Co. — 
Copper & Brass Research Association — 

**D**

Diamond Mfg. Co. — 
Dieckman Co., Ferdinand — 
Diener Mfg. Co., Geo. W. — 
Double Blast Mfg. Co., Inc. — 
Double-Duty Mfg. Co. — 
Dreis & Krump Mfg. Co. 83

**E**

Eaglesfield Ventilator Co. —

**F**

Fanner Mfg. Co. — 
Forest City Fdy. & Mfg. Co. 48
Floral City Heater Co. — 
Fort Shelby Hotel — 
Freidley-Voshardt Co. —

**G**

Gerock Bros. Mfg. Co. — 
Gray & Dudley Co. 49

**H**

Harrington & King Perf. Co. 83
Hart & Cooley Co. — 
Henry Furnace & Fdy. Co. — 
Hess-Snyder Co. 51
Hessler Co., H. E. 87
Homer Furnace Co. 46
Hyro Mfg. Co. —

**I**

Independent Register & Mfg. Co. — 
Inland Steel Co. 81
International Heater Co. —

**K**

Keith Furnace Co. — 
Kernchen Co. 86
Kirk-Latty Co. 50

**L**

Lalance & Grosjean Mfg. Co. — 
Lamneck & Co., W. E. — 
Lamson & Sessions Co., The — 
Langenberg Mfg. Co. — 
Lennox Furnace Co. — 
Liberty Foundry Co. — 
Linde Air Products Co. 77
Lupton's Sons Co., David — 

**M**

Majestic Co., The — 
Marshalltown Mfg. Co. — 
May-Fiebeger Co. — 
Merchant & Evans Co. — 
Meyer & Bro. Co., F. — 
Meyer Furnace Co., The — 
Michigan Fireproof Skylight Co. — 
Milwaukee Corr. Co. Back Cover
Monitor Furnace Co. — 
Mt. Vernon Furn. & Mfg. Co. — 
Mueller Furnace Co., L. J. —

**N**

National Heatcraft Institute 85
New Jersey Zinc Sales Co., The —
Northwestern Stove Repair Co. 50

**O**

Osborn Co., The J. M. & L. A. 81

**P**

Parker-Kalon Corp. — 
Peck, H. E. 86
Peck, Stow & Wilcox — 
Pecora Paint Co. — 
Pfeifer, Wm. 87
Polk, R. L. — 
Prest-O-Lite Co., Inc. —

**Q**

Quick Meal Stove Co. — 
Quincy Pattern Co. 53

**R**

Reed Air Filter Co. — 
Robinson, A. H., Co. 53
Robinson Furnace Co. — 
Rock Island Register Co. — 
Ross-Gould Co. — 
Royal Ventilator Co. — 
Rybolt Heater Co. — 
Ryerson & Sons, Inc., Jos. T. 5

**S**

Sheet Steel Trade Ex. Comm. — 
Special Chemicals Co. — 
Standard Furn. & Supply Co. 51
Standard Ventilator Co. 83
St. Louis Heating Co. — 
St. Louis Tech. Inst. 8
Sturtevant Co. — 
Success Heater Mfg. Co. Front Cover

**T**

Taylor Co., N. & G. 81
Technical Products Co. — 
Teela Sheet Metal Co. — 
The Thatcher Co. — 
Thomas & Armstrong Co. — 
Trachte Bros. Co., Inc. — 
Tuttle & Bailey Mfg. Co. — 
XXth Century Htg. & Vent. Co. —

**U**

United States Register Co. — 
Utica Heater Co. 47

**V**

Vedder Pattern Works 53
Viking Shear Co. —

**W**

Walworth Run Fdy. Co. 50
Warm Air Furnace Fan Co. — 
Waterman-Waterbury Co. 56
Western Steel Products Co. — 
Wheeling Corr. Co. — 
Wheeling Metal & Mfg. Co. — 
Whitney Mfg. Co., W. A. 87
Whitney Metal Tool Co. — 
Wise Furnace Co. —


## *Markets—Continued from page 78*

**NETTING, POULTRY**

Galvanized before weaving .....57½-5%
Galvanized after weaving.52½-5%

**PASTE**

**Asbestos Dry Paste:**

| | |
|---|---|
| 200-lb. barrel | $16 00 |
| 100-lb. barrel | 8 75 |
| 35-lb. pail | 3 50 |
| 10-lb. bag | 1 10 |
| 5-lb. bag | 60 |
| 2½-lb. cartons | 35 |

**PIPE**

**Conductor**
Cor. Rd., Plain Rd. or Sq.

**Galvanized**
Crated and nested (all gauges) .....75-2½%
Crated and not nested (all gauges) .....70-15%

**Furnace Pipe**
Double Wall Pipe and Fittings .....50%
Single Wall Pipe, Round Galvanized Pipe .....50%
Galvanized and Tin Fittings.50%

**Lead**
Per 100 lbs.....$12 50

**Stove Pipe**
"Milcor" "Titelock" Uniform Blue Stove

| | |
|---|---|
| 28 gauge, 5 inch U. C. nested | 11 50 |
| 28 gauge, 6 inch U. C. nested | 12 25 |
| 28 gauge, 7 inch U. C. nested | 14 25 |
| 30 gauge, 5 inch U. C. nested | 10 50 |
| 30 gauge, 6 inch U. C. nested | 11 25 |
| 30 gauge, 7 inch U. C. nested | 13 25 |

**T-Joint Made up**
6-inch, 28 ga....per doz. $ 5.00

**All Zinc**
No. 11, all styles.....60%

**POKERS, STOVE**

| | |
|---|---|
| W'r't Steel, str't or bent, .....per doz. | $0 75 |
| Nickel Plated, coil handles, .....per doz. | 1 10 |

**POKERS, FURNACE**

Each ..... $0 50

**PULLEYS**

| | |
|---|---|
| Furnace Tackle....per doz. | $0 60 |
| .....per gro. | 6 00 |
| Furnace Screw (enameled) .....per doz. | 75 |

**Ventilating Register**

| | |
|---|---|
| Per gross | 9 00 |
| Small, per pair | 30 |
| Large, per pair | 50 |

**PUTTY**

Commercial Putty, 100-lb Kits ..... $3 40

**QUADRANTS**

Malleable Iron Damper.....10%

**REDUCERS—Oval Stove Pipe**

| | Per Doz. |
|---|---|
| 7—6, 1 doz. in carton | $2.25 |

**REGISTERS AND BORDERS—Baseboard, Floor and Wall.**

Cast Iron .....20%
Steel and Semi-Steel.....40%
Baseboard .....40%
Wall .....40%
Adjustable Ceiling Ventilators.40%

**Register Faces—Cast and Steel**

Japanned, Bronzed and Plated, 4x6 to 14x14.....40%
Large Register Faces—Cast, 14x14 to 38x42.....60%
Large Register Faces—Steel, 14x14 to 38x42.....65%

**RIDGE ROLL**

Galv., Plain Ridge Roll, b'did .....75-10-5%
Galv., Plain Ridge Roll crated .....75-10%
Globe Finials for Ridge Roll .....50%

**ROOFING**

| | Per Square |
|---|---|
| Best grade, slate surf. prepared | $ 2 30 |
| Best talc surfaced | 2 65 |
| Medium talc surfaced | 2 00 |
| Light talc surfaced | 1 30 |
| Red Rosin Sheeting, per ton | 57 00 |

**SCREWS**

**Sheet Metal**

| | |
|---|---|
| 7, ½x¼, per gross | $0 52 |
| No. 10, ¾x3/16, per gross | 68 |
| No. 14, ⅞x¼, per gross | 89 |

**SHEARS, TINNERS' & MACHINISTS'**

Viking .....$22 00

**Lennox Throatless**

No. 18 .....35%
Shear blades .....10%
(f. o. b. Marshalltown, Iowa.)

**SHIELDS, REGISTER**

| | |
|---|---|
| No. 1 "Gem" floor | $12 00 doz. |
| No. 2 "Gem" wall | 6 00 doz. |

**SHOES**

Galv. 28 Gauge, Plain or corrugated round flat crimp...60%
26 gauge round flat crimp....45%
24 gauge round flat crimp....15%

**SNIPS, TINNERS'**

Clover Leaf .....40 & 10%
National .....40 & 10%
Star .....50%
Milcor .....Net

**SQUARES**

Steel and Iron.....Net
(Add for bluing, $3 per doz. net.)

Mitre .....Net

Try .....Net

Try and Bevel.....Net

Try and Mitre.....Net

Fox's .....per doz. $6 00

Winterbottom's .....10%

**STOPPERS, FLUE**

| | |
|---|---|
| Common .....per doz. | $1 10 |
| Gem, No. 1.....per doz. | 1 10 |
| Gem, flat, No. 3....per doz. | 1 00 |

**VENTILATORS**

Standard.....30 to 40%

**WIRE**

| | |
|---|---|
| Plain annealed wire, No. 8, per 100 lbs. | $3 05 |
| Galvanized barb wire, per 100 lbs. | 3 90 |
| Wire Cloth—black painted, 12-mesh, per 100 sq. ft. | 1 65 |
| Cattle Wire—galvanis'd catch weight spool, per 100 lbs. | 3 65 |
| Galvanized Hog Wire, 80 rod spool, per spool | 3 18 |
| Galvanized Plain Wire, No. 9, per 100 lbs. | 3 40 |
| Stove Pipe, per stone | 1 10 |

**WRINGERS**

| | |
|---|---|
| No. 790, Guarantee ....each | $5 10 |
| No. 770, Bicycle .....each | 4 70 |
| No. 670, Domestic .....each | 4 35 |
| No. 110, Brighton .....each | 3 70 |
| No. 750, Guarantee ....each | 5 10 |
| No. 740, Bicycle .....each | 4 70 |
| No. 22, Pioneer .....each | 3 40 |
| No. 2, Superb .....each | 2 65 |

# Differently Dipped

**The fact that it is made by an old Welsh hand-dipping process is the secret of the success of**

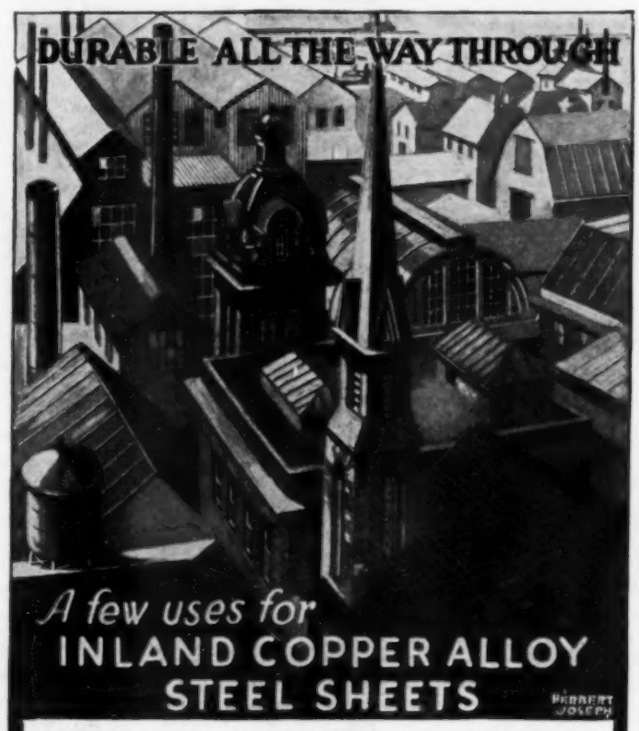
# TARGET and ARROW ROOFING TIN

**But Target and Arrow is not "dipped," in the usual meaning of the word, for, during the 35 minutes consumed in coating each sheet of Target and Arrow, it is actually left to soak in successive pots of boiling palm oil and molten metal. No wonder we say it is "differently dipped"—no wonder it outlasts the building it covers!**

## N. & G. TAYLOR COMPANY

**BROAD AND ARCH STREETS**
**PHILADELPHIA, PA.**

**Headquarters for Good Roofing Tin Since 1810**

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THE

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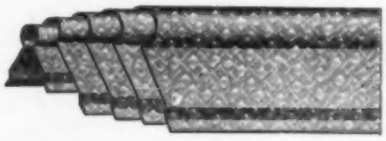
**CLEVELAND, OHIO**

Buffalo Warehouse . 64-68 Rapin Street

*"Everything Used in Sheet Metal Work"*

### Ridge Roll

**Osborn's Special**



There is some demand for Ridge Roll made with an additional brake on the apron edge. This edge fits closer to the roof and gives a firm nailing surface. The projection is about ½ inch. This style we call "Osborn's Special Ridge Roll." No. 28 gauge galvanized steel is carried in stock.

**1½-inch— 8-inch girth**
**2 -inch—10-inch girth**

*For Further Particulars on Ridge Roll, See Our Catalogue, Page 58 or Write Us.*

# BUYERS' DIRECTORY

**Acetylene (Gas) Dissolved.**
Prest-O-Lite Co., Inc., New York, N. Y.

**Air Filters.**
Reed Air Filter Co., Louisville, Ky.

**Bale Ties.**
American Steel & Wire Co., Chicago, Ill.

**Blowers.**
Sturtevant Co., B. F., Boston, Mass.

**Bolts—Stove.**
The Kirk-Latty Co., Cleveland, Ohio
Lamson & Sessions Co., Cleveland, Ohio

**Brakes—Bending.**
Dreis & Krump Mfg. Co., Chicago, Ill.

**Brakes—Cornice.**
Dreis & Krump Mfg. Co., Chicago, Ill.

**Brass and Copper.**
Copper & Brass Research Association, New York
Merchant & Evans Co., Philadelphia, Pa.

**Cans—Garbage.**
Osborn Co., The J. M. & L. A., Cleveland, Ohio

**Castings—Malleable.**
Fanner Mfg. Co. Cleveland, Ohio

**Ceilings—Metal.**
Friedley-Voshardt Co., Chicago, Ill.
Milwaukee Corrugating Co., Milwaukee, Wis.
Wheeling Corrugating Co., Wheeling, W. Va.

**Chaplets.**
Fanner Mfg. Co., Cleveland. Ohio

**Chimney Tops.**
Standard Ventilator Co., Lewisburg, Pa.

**Check Drafts.**
Teela Sheet Metal Co., Oshkosh, Wis.

**Cleaners—Furnace.**
Sturtevant Co., B. F., Boston, Mass.

**Cleaners—Suction.**
Sturtevant Co., B. F., Boston, Mass.

**Clinker Tongs.**
L. J. Mueller Furnace Co., Milwaukee, Wis.

**Clips—Roofing.**
Wm. Pfeifer, New York, N. Y.

**Coal Chutes.**
Majestic Co., The, Huntington, Ind.

**Copper.**
Copper & Brass Research Association, New York

**Cornices.**
Friedley-Voshardt Co., Chicago, Ill.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Cut-offs—Rain Water.**
Milwaukee Corrugating Co., Milwaukee, Wis.

**Damper Accessories.**
Parker-Kalon Corp., New York, N. Y.

**Damper Clips.**
L. J. Mueller Furnace Co., Milwaukee, Wis.
Charlestown, Mass.

**Damper Regulators.**
Parker-Kalon Corp., New York, N. Y.

**Diffuser—Air Duct.**
Aeolus-Dickinson Co., Chicago, Ill.
L. J. Mueller Furnace Co., Milwaukee, Wis.

**Doors—Metal**
Lupton's Sons Co., David, Philadelphia, Pa.

**Drive Screws—Hardened Metallic.**
Parker-Kalon Corp., 354 West 13th St., New York

**Eaves Trough.**
Barnes Zinc Products Co., Chicago, Ill.
Berger Bros. Co., Philadelphia, Pa.
Berger Co., L. D., Philadelphia, Pa.
Lupton's Sons Co., David, Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.
New Jersey Zinc Sales Co., The, New York, N. Y.
Wheeling Corrugating Co., Wheeling, W. Va.

**Elbows and Shoes—Conductor.**
Barnes Zinc Products Co., Chicago, Ill.
Dieckmann Co., Ferdinand, Cincinnati, Ohio
Double-Duty Mfg. Co., Aurora, Ill.
Lupton's Sons Co., David, Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Wood Faces—Cold Air**
American Wood Register Co. Plymouth, Ind.
Eaglesfield Ventilator Co., Indianapolis, Ind.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Fences.**
American Steel & Wire Co., Chicago, Ill.

**Fittings—Conductor.**
Barnes Zinc Products Co., Chicago, Ill.

**Flue Thimbles.**
Milwaukee Corrugating Co., Milwaukee, Wis.

**Furnace Cement—Asbestos.**
Buckeye Products Co., The, Cincinnati, Ohio
Connors Paint Mfg. Co., Wm., Troy, N. Y.
Milwaukee Corrugating Co., Milwaukee, Wis.
Pecora Paint Co., Philadelphia, Pa.

**Furnace Cement—Liquid.**
Technical Products Co., Pittsburgh, Pa.

**Furnace Cleaners.**
Sturtevant Co., B. F., Boston, Mass.

**Furnace Fans.**
Robinson Furnace Co., Chicago
A. H. Robinson Company, Cleveland, Ohio
Sturtevant Co., B. F., Boston, Mass.
Warm Air Furnace Fan Co., The, Cleveland, Ohio

**Furnace Rings.**
Milwaukee Corrugating Co., Milwaukee, Wis.
Walworth Run Fdy. Co., Cleveland, Ohio

**Furnaces—Gas.**
Calkins & Pearce, Columbus, Ohio

**Furnaces—Warm Air.**
Agricola Furnace Co., Gadsen, Ala.
American Furnace Co., St. Louis, Mo.
American Foundry & Furnace Co., Bloomington, Ill.
Brillion Iron Works, Brillion, Wis.
Calkins & Pearce, Columbus, Ohio
Colburn Heater Co., Chicago, Ill.
Floral City Heater Co., Monroe, Mich.
Forest City Fdy. & Mfg. Co., Cleveland, Ohio
Gray & Dudley Co., Nashville, Tenn.
Henry Furnace & Fdy. Co., Cleveland, Ohio
Hess-Snyder Co., Massillon, Ohio
Homer Furnace Co., Coldwater, Mich.
International Heater Co., Utica, N. Y.
Keith Furnace Co., Des Moines, Ia.
Lamneck Co., W. E., Columbus, Ohio
Langenberg Mfg. Co., St. Louis, Mo.
Lennox Furnace Co., Marshalltown, Ia.; Syracuse, N. Y.
Liberty Foundry Co., St. Louis, Mo.
Majestic Co., The, Huntington, Ind.
Marshalltown Heater Co., Marshalltown, Iowa
May-Fiebeger Furnace Co., Newark, Ohio
Meyer Furnace Co., The Peoria, Ill.
Monitor Furnace Co., Cincinnati, Ohio
Mt. Vernon Furnace & Mfg. Co., Mt. Vernon, Ill.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Robinson Furnace Co., Chicago, Ill.
Robinson Furnace Co., A. H., Cleveland, Ohio
Rybolt Heater Co., Ashland, Ohio
Security Stove & Mfg. Co., Kansas City, Mo.
Standard Furnace & Supply Co., Omaha, Neb.
St. Louis Heating Co., St. Louis, Mo.
Success Heater Mfg. Co., Des Moines, Iowa
Thomas & Armstrong Co., London, Ohio
Thatcher Co. Chicago, Ill.
XXth Century Heating & Ventilating Co., Akron, Ohio
Utica Heater Co., Utica, N. Y.
Waterman-Waterbury Co., Minneapolis, Minn.
Western Steel Products Co., Duluth, Minn.
Wise Furnace Co., Akron, Ohio

**Garages—Metal.**
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Trachte Brothers Co., Inc., Madison, Wis.

**Gas (Acetylene) Dissolved.**
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**Gas (Nitrogen).**
Linde Air Products Co., New York, N. Y.

**Gas (Oxygen).**
Linde Air Products Co., New York, N. Y.

**Glass—Wire.**
Lupton's Sons Co., David, Philadelphia, Pa.

**Grilles.**
Diamond Mfg. Co., Wyoming, Pa.
Harrington & King Perforating Co., Chicago, Ill.
Hart & Cooley Co., New Britain, Conn.
Tuttle & Bailey Mfg. Co., Chicago, Ill.
United States Register Co., Battle Creek, Mich.

**Grilles—Store Front.**
Tuttle & Bailey Mfg. Co., Chicago, Ill.

**Guards—Machine and Belt.**
Harrington & King Perforating Co., Chicago, Ill.

**Handles—Boiler.**
Berger Bros. Co., Philadelphia, Pa.

**Handles—Soldering Iron.**
Hyro Mfg. Co., New York, N. Y.

**Hangers—Eaves Trough.**
Berger Co., L. D., Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Heaters—Cabinet.**
Gray & Dudley Co., Nashville, Tenn.
Majestic Co., The, Huntington, Ind.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Waterman-Waterbury Co., Minneapolis, Minn.

**Heaters—Gas.**
Calkins & Pearce, Coumbus, Ohio

**Heaters—School Room.**
Floral City Heater Co., Monroe, Mich.
International Heater Co., Utica, New York
Meyer Furnace Co., The, Peoria, Ill.
L. J. Mueller Furnace Co., Milwaukee, Wis.
Standard Furnace & Supply Co., Omaha, Neb.
Waterman-Waterbury Co., Minneapolis, Minn.

**Hooks—Conductor.**
Berger Co., L. D., Philadelphia, Pa.

**Hotels.**
Fort Shelby Hotel, Detroit, Mich.

**Humidifiers.**
Automatic Humidifier Co., Cedar Falls, Iowa
L. J. Mueller Furnace Co., Milwaukee, Wis.
Robinson Furnace Co., Chicago, Ill.

**Lath—Expanded Metal.**
Milwaukee Corrugating Co., Milwaukee, Wis.

**Machines—Crimping.**
Bertsch & Co., Cambridge City, Ind.

**Machinery—Culvert.**
Bertsch & Co., Cambridge City, Ind.

**Machines—Tinsmiths.**
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Chicago Elbow Machine Co., Oak Park, Ill.
Dreis & Krump Mfg. Co., Chicago, Ill.
Marshalltown Mfg. Co., Marshalltown, Iowa
Osborn Co., The J. M. & L. A., Cleveland, Ohio
Peck, Stow & Wilcox Co., Southington, Conn.
Ryerson & Son, Inc., Jos. T., Chicago, Ill.
Whitney Mfg. Co., W. A., Rockford, Ill.
Whitney Metal Tool Co., Rockford, Ill.

**Mailing Lists.**
R. L. Polk Co., Detroit, M.
Ross-Gould Co., St. Louis, Mo.

**Mandrels.**
Hyro Mfg. Co., New York, N. Y.

**Metals—Perforated.**
Diamond Mfg. Co., Wyoming, Pa.
Harrington & King Perforating Co., Chicago, Ill.

**Miters.**
Friedley-Voshardt Co., Chicago, Ill.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Miters—Eaves Trough.**
Barnes Zinc Products Co., Chicago, Ill.
Lupton's Sons Co., David, Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Nails—Hardened Masonry.**
Parker-Kalon Corp., New York, N. Y.

**Nails—Wire.**
American Steel & Wire Co., Chicago, Ill.

**Nitrogen (Gas).**
Linde Air Products Co., New York, N. Y.

**Ornaments—Sheet Metal.**
Friedley-Voshardt Co., Chicago, Ill.
Gerock Bros. Mfg. Co., St. Louis, Mo.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Oxygen (Gas).**
Linde Air Products Co., New York, N. Y.

**Paint.**
Connors Paint Mfg. Co., Wm., Troy, N. Y.
Pecora Paint Co., Philadelphia, Pa.

**Patterns—Furnace & Stove.**
Cleveland Castings Pattern Co., Cleveland, Ohio
Quincy Pattern Co., Quincy, Ill.
Vedder Pattern Works, Troy, N. Y.

**Pipe and Fittings—Furnace.**
Henry Furnace & Fdy. Co., Cleveland, Ohio
Lamneck Co., W. E., Columbus, Ohio
Meyer & Bro. Co., F., Peoria, Ill.
Milwaukee Corrugating Co., Milwaukee, Wis.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Osborn Co., The J. M. & L. A., Cleveland, Ohio
Robinson Furnace Co., Chicago, Ill.
Standard Furnace & Supply Co., Omaha, Neb.

**Pipe and Fittings—Stove.**
Meyer & Bro. Co., F., Peoria, Ill.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Pipe—Conductor.**
Barnes Zinc Products Co., Chicago, Ill.
Berger Bros. Co., Philadelphia, Pa.
Dieckmann Co., Ferdinand, Cincinnati, Ohio
Friedley-Voshardt Co., Chicago, Ill.
Lupton's Sons Co., David, Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.
New Jersey Zinc Sales Co., The, New York, N. Y.
Wheeling Corrugating Co., Wheeling, W. Va.
Wheeling Metal & Mfg. Co., Wheeling, W. Va.

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All Sizes and Shapes of Holes
In Steel, Zinc, Brass, Copper, Tinplate, etc.
For All Screening, Ventilating and Draining
EVERYTHING IN PERFORATING METAL

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HERCULES — "STAR" — UNO
AMERICAN-LARSON — "BEST"

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PHILADELPHIA, PA.
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JUST take your straight pipe—fasten the form or jig to it and in two minutes you have your 3 or 4 piece adjustable elbow all ready for use and any size you want.

Range of capacity 7 in. to 36 in. Elbows of No. 24 gauge and lighter

**PURNELL ELBOW EDGING and CUTTING MACHINE**

It is simple, sound and constructed of the very best materials—both installers and manufacturers are using it. No more large stock for the installer. Enables you to make adjustable elbows any size for each job at once when you need them.

Write today for circular giving complete description and price.

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## HEATS COPPERS QUICKLY

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## The NEW IMPROVED "STANDARD" Rotable Ventilator

*Patents pending*

This favorite cone-shaped ventilator is now improved in several important points.

The weight of the ventilator body is now carried on a concave thrust bearing nested in the apex of the conical body. This bearing turns upon the pivot point of the stationary center spindle.

The bronze Guide Bushings are now made of non-corrosive bronze which minimizes friction and any tendency to screech when body is rotating.

*There are other new features. Write today for new catalog and price list.*

STANDARD VENTILATOR CO., LEWISBURG, PA.

## CONDUCTOR HOOKS

EFFICIENT and reliable for plain or corrugated pipe. Ask for sample and No. 27 Catalogue listing hooks and hangers illustrated.

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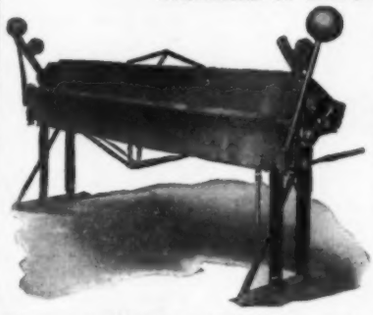
## CHICAGO STEEL CORNICE BRAKES

*STANDARD OF THE WORLD*



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**Posts—Steel Fence.**
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**Punches.**
Bertsch & Co., Cambridge City, Ind.
Peck, Stow & Wilcox Co., Southington, Conn.
Ryerson & Son, Inc., Jos. T., Chicago, Ill.
Whitney Mfg. Co., W. A., Rockford, Ill.
Whitney Metal Tool Co., Rockford, Ill.

**Punches—Combination Bench and Hand.**
Hyro Mfg. Co., New York, N. Y.
Whitney Metal Tool Co., Rockford, Ill.
Whitney Mfg. Co., W. A., Rockford, Ill.

**Punches—Hand.**
Hyro Mfg. Co., New York, N. Y.
Whitney Metal Tool Co., Rockford, Ill.
Whitney Mfg. Co., W. A., Rockford, Ill.

**Putty—Stove.**
Connors Paint Mfg. Co., Wm., Troy, N. Y.
Pecora Paint Co., Philadelphia, Pa.

**Quadrants—Damper.**
L. J. Mueller Furnace Co., Milwaukee, Wis.
Parker-Kalon Corp., New York, N. Y.

**Radiator Cabinets.**
The Hart & Cooley Mfg. Co., Hartford, Conn.
Tuttle & Bailey Mfg. Co., Chicago, Ill.

**Radiators—Shields.**
The Thomas & Armstrong Co., London, Ohio

**Ranges—Combination Gas & Coal.**
Quick Meal Stove Co., St. Louis, Mo.
Thatcher Co., Newark, N. J.

**Ranges—Gas.**
Quick Meal Stove Co., St. Louis, Mo.

**Registers—Warm Air.**
Eaglesfield Ventilator Co., Indianapolis, Ind.
Hart & Cooley Co., New Britain, Conn.
Henry Furnace & Fdy. Co., Cleveland
Independent Register & Mfg. Co., Cleveland, Ohio
Lamneck & Co., W. E., Columbus, Ohio
Majestic Co., The, Huntington, Ind.
Moyer & Bro. Co., F., Peoria, Ill.
Milwaukee Corrugating Co., Milwaukee, Wis.
Mueller Furnace Co., L. J., Milwaukee, Wis.
Robinson Furnace Co., Chicago, Ill.
Rock Island Register Co., Rock Island, Ill.
Standard Furnace & Supply Co., Omaha, Neb.
Tuttle & Bailey Mfg. Co., Chicago, Ill.
United States Register Co., Battle Creek, Mich.
Walworth Run Fdy. Co., Cleveland, Ohio

**Registers—Wood.**
Eaglesfield Ventilator Co., Indianapolis, Ind.
L. J. Mueller Furnace Co., Milwaukee, Wis.
United States Register Co., Battle Creek, Mich.

**Repairs—Stove and Furnace.**
Hessler Co., H. E., Syracuse, N. Y.
Northwestern Stove Repair Co., Chicago, Ill.

**Ridging.**
American Rolling Mill Co., Middletown, Ohio
Lupton's Sons Co., David, Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Rivets—Stove.**
The Kirk-Latty Co., Cleveland, Ohio
Lamson & Sessions Co., Cleveland, Ohio
Ryerson & Son, Inc., Jos. T., Chicago, Ill.

**Roasters.**
Lalance & Grosjean Mfg. Co., Chicago, Ill.

**Rods—Stove.**
The Kirk-Latty Co., Cleveland, Ohio
Lamson & Sessions Co., Cleveland, Ohio

**Rolls—Forming.**
Bertsch & Co., Cambridge City, Ind.

**Roofing Cement.**
Connors Paint Mfg. Co., Wm. Troy, N. Y.
Pecora Paint Co., Philadelphia, Pa.

**Roof—Flashing.**
Hessler Co., H. E., Syracuse, N. Y.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Roofing—Iron and Steel.**
American Rolling Mill Co., Middletown, Ohio
Friedley-Voshardt Co., Chicago, Ill.
Inland Steel Co., Chicago, Ill.
Merchant & Evans Co., Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.
Osborn Co., The J. M. & L. A., Cleveland, Ohio
Ryerson & Son, Inc., Jos. T., Chicago, Ill.
Wheeling Corrugating Co., Wheeling, W. Va.

**Roofing—Tin.**
Taylor Co., N. & G., Philadelphia, Pa.
Wheeling Corrugating Co., Wheeling, W. Va.

**Roofing —Zinc.**
New Jersey Zinc Sales Co., The, New York, N. Y.

**Rubbish Burners.**
Hart & Cooley Co., New Britain, Conn.

**Sal-Ammoniac.**
Special Chemicals Co., Waukegan, Ill.

**Schools—Sheet Metal Pattern Drafting.**
St. Louis Technical Institute, St. Louis, Mo.

**Schools—Warm Air Heating.**
National Heatcraft Institute, Peoria, Ill.
St. Louis Technical Institute, St. Louis, Mo.

**Screws—Hardened Metallic Drive.**
Parker-Kalon Corp., 354 West 13th St., New York

**Screws—Hardened Self-Tapping. Sheet Metal.**
Parker-Kalon Corp., 354 West 13th St., New York

**Screens—Perforated Metal.**
Harrington & King Perforating Co., Chicago

**Shears—Hand and Power.**
Double-Duty Mfg. Co., Aurora, Ill.
Marshalltown Mfg. Co., Marshalltown, Iowa
Peck, Stow & Wilcox Co., Southington, Conn.
Ryerson & Son, Inc., Jos. T., Chicago, Ill.
Viking Shear Co., Erie, Pa.

**Sheets—Steel—Lead.**
Wheeling Metal & Mfg. Co., Wheeling, W. Va.

**Sheet Metal Screws—Hardened, Self-Tapping.**
Parker-Kalon Corp., 354 West 13th St., New York

**Sheets—Black and Galvanized.**
American Rolling Mill Co., Middletown, Ohio
Central Alloy Steel Corp., Massillon, Ohio
Inland Steel Co., Chicago, Ill.
Merchant & Evans Co., Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.
Osborn Co., The J. M. & L. A., Cleveland, Ohio
Ryerson & Son, Inc., Jos. T., Chicago, Ill.
Taylor Co., N. & G., Philadelphia, Pa.
Wheeling Corrugating Co., Wheeling, W. Va.

**Sheets—Iron.**
American Rolling Mill Co., Middletown, Ohio
Central Alloy Steel Corp., Massillon, Ohio
Merchant & Evans Co., Philadelphia, Pa.
Ryerson & Son, Inc., Jos. T., Chicago, Ill.

**Roofing—Steel—Lead Coated.**
Wheeling Metal & Mfg. Co., Wheeling, W. Va.

**Sheets—Tin.**
Merchant & Evans Co., Philadelphia, Pa.
Taylor Co., N. & G., Philadelphia, Pa.

**Sheets—Zinc.**
New Jersey Zinc Sales Co., The, New York, N. Y.

**Shingles and Tiles—Metal.**
Milwaukee Corrugating Co., Milwaukee, Wis.
Wheeling Corrugating Co., Wheeling, W. Va.
Wheeling Metal & Mfg. Co., Wheeling, W. Va.

**Shingles—Zinc.**
Milwaukee Corrugating Co., Milwaukee, Wis.

**Sifters—Ash.**
Diener Mfg. Co., G. W., Chicago, Ill.

**Sky Lights.**
Lupton's Sons Co., David, Philadelphia, Pa.
Michigan Fireproof Skylight Co., Benton Harbor, Mich.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Snips.**
Peck, Stow & Wilcox Co., Southington, Conn.

**Solder.**
Chicago Solder Co., Chicago, Ill.
Double-Duty Elbow Co., Aurora, Ill.
Milwaukee Corrugating Co., Milwaukee, Wis.

**Soldering Furnaces.**
Burgess Soldering Furnace Co., Columbus, Ohio
Clayton & Lambert Mfg. Co., Detroit, Mich.
Diener Mfg. Co., G. W., Chicago, Ill.
Double Blast Mfg. Co., North Chicago, Ill.
Quick Meal Stove Co., St. Louis, Mo.

**Soldering Supplies**
Double-Duty Elbow Co., Aurora, Ill.
Special Chemicals Co., Waukegan, Ill.

**Specialties—Hardware.**
Diener Mfg. Co., G. W., Chicago
Hessler Co., H. E., Syracuse, N. Y.

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Fanner Mfg. Co., Cleveland, Ohio

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Friedley-Voshardt Co., Chicago, Ill.
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Milwaukee Corrugating Co., Milwaukee, Wis.

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Quick Meal Stove Co., St. Louis, Mo.

**Stoves—Gasoline and Oil.**
Quick Meal Stove Co., St. Louis, Mo.

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Thatcher Co., Newark, N. J.

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American Steel & Wire Co., Chicago, Ill.

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Milwaukee Corrugating Co., Milwaukee, Wis.
Osborn Co., The J. M. & L. A., Cleveland, Ohio
Taylor Co., N. & G., Philadelphia, Pa.

**Tools—Tinsmith's.**
Bertsch & Co., Cambridge City, Ind.
Chicago Elbow Machine Co., Oak Park, Ill.
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Dries & Krump Mfg. Co., Chicago, Ill.
Hyro Mfg. Co., New York, N. Y.
Marshalltown Mfg. Co., Marshalltown, Iowa
Osborn Co., The J. M. & L. A., Cleveland, Ohio
Peck, Stow & Wilcox Co., Southington, Conn.
Ryerson & Son, Inc., Jos. T., Chicago, Ill.
Viking Shear Co., Erie, Pa.
Whitney Mfg. Co., W. A., Rockford, Ill.
Whitney Metal Tool Co., Rockford, Ill.

**Torches.**
Burgess Soldering Furnace Co., Columbus, Ohio
Clayton & Lambert Mfg. Co., Detroit, Mich.
Diener Mfg. Co., G. W., Chicago, Ill.
Quick Meal Stove Co., St. Louis, Mo.

**Trade Extension.**
Copper & Brass Research Association, New York, N. Y.
Sheet Steel Trade Extension Committee, Pittsburgh, Pa.

**Trimmings—Stove.**
Fanner Mfg. Co., Cleveland, Ohio

**Ventilators.**
Aeolus Dickinson Co., Chicago, Ill.
Akrat Ventilators, Inc., Chicago, Ill.
Arex Company, Chicago, Ill.
Berger Bros. Co., Philadelphia, Pa.
Friedley-Voshardt Co., Chicago, Ill.
Kernchen Co., Chicago, Ill.
Lupton's Sons Co., David, Philadelphia, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.
Royal Ventilator Co., Philadelphia, Pa.
Standard Ventilator Co., Lewisburg, Pa.
Sturtevant Co., Boston, Mass.

**Ventilators—Ceiling.**
Eaglesfield Ventilator Co., Indianapolis, Ind.
Hart & Cooley Co., New Britain, Conn.
Henry Furnace & Fdy. Co., Cleveland, Ohio
Tuttle & Bailey Mfg. Co., New York
Sturtevant Co., B. F., Boston, Mass.

**Windows—Steel.**
Lupton's Sons Co., David, Philadelphia, Pa.

**Wire—Electrical.**
American Steel & Wire Co., Chicago, Ill.

**Wire Hoops.**
American Steel & Wire Co., Chicago, Ill.

**Wire Rope.**
American Steel & Wire Co., Chicago, Ill.

**Zinc.**
Merchant & Evans Co., Philadelphia, Pa.
New Jersey Zinc Co., The, New York, N. Y.

# WANTS AND SALES

Any yearly subscriber to AMERICAN ARTISAN may insert advertisements of not more than fifty words in our Want and Sales Columns WITHOUT CHARGE.

Such advertisements, however, must be limited to help or situation wanted, tools or equipment for sale, to exchange or to buy, business for sale or location desired.

## BUSINESS CHANCES

**Lightning Rods — Dealers who are selling Lightning Protection will make money by writing us for our latest Factory to Dealer Prices. We employ no salesmen and save you all overhead charges. Our Pure Copper Cable and Fixtures are endorsed by the National Board of Fire Underwriters and hundreds of dealers. Write today for samples and prices. L. K. Diddle Company, Marshfield Wisconsin.**

Wanted—A man about the age of 30 to 40 years with $3,000 to $5,000 capital to buy an interest in a well established sheet metal and roofing concern. Must be capable of estimating plans and to take charge of men in shop. A man preferred that is a hustler and anxious to get somewhere in this world. A city with a population of approximately 75,000 in Southern Michigan. If interested let us hear from you at once. Address B-89, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 6-3t.

Would you like to own a fully equipped tin shop in a town about 2,500. Borden milk people are starting one of their largest plants here this year. Good chance for combination shop, as sewerage has just been completed. Also have residence if you want to buy. No better climate anywhere. Address H. D. Holtam, Macon, Miss. 6-3t.

For Sale — Sheet metal shop in good growing north Idaho town, about 4,500 inhabitants, university, and good country to draw from. Business good. Lot 50x125, with building, stock and tools. Price $4,500 cash. Good reasons for selling. Address J. A. Anderson, % Moscow Sheet Metal Works, Moscow, Idaho. 5-3t

Wanted—Small hardware, or hardware and combination shop in town above 1,000 population. Preferably in northern Iowa or southeastern Minnesota. State your best cash price and give full particulars in first letter. Address-B-79, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 4-3t.

For Sale—Warm Air Heating and sheet metal shop. Extra good set of tools including brake and circular shears. Town 2,000 population. One other shop. Good competition. $1,000 will handle. Write Ray M. Sharp, Bedford, Iowa. 6-3t.

For Sale — One-ton Dodge-Graham truck, canopy top, 1927 model, driven 3,500 miles, and in first-class condition. Also No. 2 Imperial welding outfit Address B-90, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 6-3t

Trade—Can anyone use 200 6x8 cans with covers? Second hand steam and wall radiator for used furnace or bar folder and other machines. Address Chas. Hahn, 5148 Irving Park Blvd., Chicago, Illinois. 5-3t

Wanted—Hardware stock, or to know of location for new stock. Preferably within seventy-five miles of Detroit. Must be live town of 5,000 or larger. Address Box 147, Port Huron, Michigan. 5-3t

For Sale—Complete sheet metal shop. Reo Speed wagon and residence. Address-B-80, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 4-3t.

## BUSINESS CHANCES

For Sale—One 110-gallon tank and Bowser pump. Was used for linseed oil for about one and half years. Also hand elevator only used two years. Platform size 3x3. Also Stencil outfit from one to nine, including O and from A to Z. Make me an offer for any of the above. Address John P. Paulus, 311 Franklin St., Port Washington, Wisconsin. 7-3t

For Sale—Sheet metal shop. Stock and good tools including steel cornice brake, rollers, etc., or will sell tools separately. Write A. H. Kreueger, 3819 Thomas avenue, Minneapolis, Minnesota. 7-3t

For Sale—Hardware stock, fixtures and tools at Wenona, Illinois. Wish to retire from business. A bargain. Address-G. W. Kreider, Wenona, Illinois. 4-3t.

Wanted—A first class sheet metal worker with small amount of capital to operate my shop for rent. Address H. W. Gazlay, Dayton, Texas. 6-3t.

## SITUATION WANTED

Situation Wanted—By an A1 sheet metal worker and layout man; 30 years' experience; age 46; sober; steady; married and hard worker. Prefer shop work. Experience covers every phase of sheet metal and tin work. Please state wages and hours. Address B-86, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 5-3t

Situation Wanted—Permanent position by capable sheet metal worker, pattern cutter and A1 furnace man. Eighteen years' experience; married; good habits; Missouri or states adjoining preferred. Please state full particulars and wages in first letter. Address B-81, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 4-3t

Situation Wanted — By a first-class plumber; can also do heating and tinwork; can estimate, read blue prints or run shop. Am steady and reliable and want just such a job. Illinois or Iowa preferred, but will go anywhere. State full particulars. Address B-85, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 5-3t

Situation Wanted—A first class sheet metal worker and furnace man who also understands the making of electric signs. Southwestern states preferred. Address-Box 2417, Los Angeles, California. 4-3t.

## SITUATION WANTED

Situation Wanted—By a first class plumber, tinner, steam and hot water heating and repair work. Have worked at the trades for over 30 years. Am married and want steady work the year round. Please state wages in first letter. Address B-91, care AMERICAN ARTISAN, 620 South Michigan avenue, Chicago, Illinois. 7-3t

Situation Wanted—Who wants to hire a man who knows the business from A to Z? I am an A-1 mechanic and layout man on all classes of sheet metal work, electric signs and auto work included. Steady, sober and reliable. Married. Thirty years' experience. Address TINNER, 6423 Northfield avenue, Detroit, Michigan. 7-3t

Situation Wanted—As tinner or tinner and plumber. I am also a good furnace man and auto radiator man. Job must be steady the year round. I am a married man. Can furnish best of references. State wages and particulars in first letter. Address Lee O. Bailey, Parkston, South Dakota. 6-3t

Situation Wanted — By sheet metal worker having 25 years' experience in shop, furnace, blow pipe, ventilation, square or round duct heating work. Know the Standard Code. Sober, steady worker. Please state wages and hours. Address L. C. Aitken, Box 484, Muscatine, Iowa. 7-3t

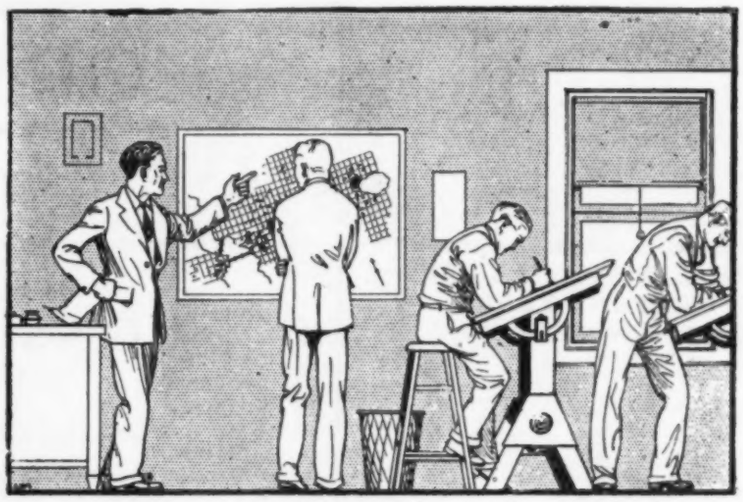
Situation Wanted — By metal worker and furnace installer. Inside or outside. Middle west preferred. Age 32, married and sober. Must be steady. State wages and hours in first letter. Address W. E. Hull, 409 Military, Dodge City, Kansas. 6-3t

Situation Wanted—Tinner and plumber with 25 years' experience in warm air and hot water furnaces, and hot water heating. Country town preferred. Address Frank Van, Granite Falls, Minnesota. 6-3t.

Situation Wanted—By first class sheet metal worker, warm air furnace installer. Plumbing and hot water heating. Address B-83, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 5-3t

## HELP WANTED

Wanted—Two sheet metal workers for inside and outside work. Address Warning Sheet Metal Company, Ceape and Court streets, Oshkosh, Wisconsin. 7-3t

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## HELP WANTED

Wanted—At once. Combination plumber and tinner. A man that knows his business. Both in and outdoor work. Must be steady. This is a year around job for right man. No others need apply. Married man preferred. This is a small country town in Wisconsin. Address B-84, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 5-3t

Wanted—First class tinner and furnace man wants to lease or buy on easy terms, shop only, or wants to start new shop with reliable hardware store. Must be in good town of 2,000 or more inhabitants. Small competition. Preferably Minnesota, Iowa or Nebraska. Address B-92, care AMERICAN ARTISAN, 620 South Michigan avenue, Chicago, Illinois. 7-3t

Salesman Wanted—High grade man for the state of Wisconsin to sell established quality line of furnace fittings and registers. Must be experienced and able to show a successful road record. Splendid opportunity to man who can fill proposition. Address B-88, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 6-2t.

Salesman Wanted—For South Dakota territory by an old established stove and furnace manufacturer. Splendid commission proposition to the man who has confidence in his ability and can produce results. Address B-87, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 6-2t.

Wanted—Good all-around tinner for furnace and sheet metal work. Must be steady and have good habits. State wages and experience. Steady work with advancement for right party. Address Buehrens Tin Shop, Dorchester, Wisconsin. 6-3t.

Wanted—Tinner, who can also do plumbing and general repair jobs on farms. One who is willing to work on percentage basis. No capital, tools or truck required. Address Grant Park Hdwe. Co., Grant Park, Illinois. 5-3t

Wanted—Two good sheet metal workers. Steady position, no labor trouble. Scale one dollar per hour. Write experience, etc. Address B-93, care AMERICAN ARTISAN, 620 South Michigan avenue, Chicago, Illinois. 7-3t

Wanted—Two sheet metal workers. Union shop. Only first class mechanics need apply. Address-Herbert Bartholomew, 307 Carroll Street, Elmira, New York. 4-3t.

Wanted—Competent sheet metal worker to take charge of sheet metal department of a combination shop. Would lease to some ambitious mechanic who wants to make better than wages. Address Box 724, Lancaster, Calif. 4-3t

Wanted—At once a first-class sheet metal worker and furnace man. Address Andrew Lind, Dundee, Illinois. 7-3t

## TINNERS' TOOLS

Wanted—To buy used 36-inch roll for 14-inch gauge iron and lighter. Address Hanbury Sheet Metal Company, 512 West 8th street, Des Moines, Iowa. 7-3t


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## TINNERS' TOOLS

For Sale—One No. S-19-5 Ideal sectional boiler, made by American Radiator Co. Has been in use one winter. First class condition. Will sell at a bargain. Address Brouillet Sheet Metal Works, 271 Iowa street, Dubuque, Iowa. 7-3t

For Sale—One 20-inch grooving machine; one large burring or circle shears; one turning down machine. Address G. O. Crouch and Sons, 31-33 Market Square, Chattanooga, Tennessee 7-3t

Wanted—One new or used Capitol Auxiliary 500 feet hot water coil. Quote your lowest cash price. Write Edw. A. Knabe, 1209 First avenue, Rock Falls, Illinois 7-3t

Wanted — Second-hand tinner's tools and machines. Write and state lowest prices for cash. Address C. S. Johnson, Dell Rapids, South Dakota. 4-3t

## SPECIAL NOTICES

**The Rate for Special Notices — displayed want ads — $3.00 per inch per insertion.**


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Either sales or purchasing. Am experienced in sheet steel, jobbing and metal ceilings, understand blueprints and estimating. Acquainted with the trade in Chicago and surrounding territory. Address W-33, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 6-3t.

## SPECIAL NOTICES

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Large successful stove manufacturer of a complete line of coal, wood, and gas ranges, cook stoves, heaters and parlor heaters, has still several territories open. Low manufacturing and material costs enable us to meet any competition. Patterns all of latest design. Will consider only experienced men who can show successful records. Address W-32, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 4-3t.

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THIS new edition, treats the practical application of engineering rules and formulas in every day use, in laying out steam, hot water, furnace and ventilating equipment for buildings of all kinds, presented in a simple manner.

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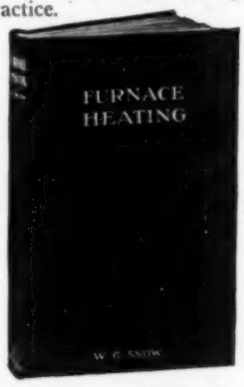


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## *Furnace Heating*

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THIS practical book deals with the different types of furnaces, their design, construction and proper installation, including warm air, combination heating systems, also covering the main features of the one pipe or pipeless furnace.

The author explains in simple English practical information on heating and ventilation of school and public buildings, churches, stores, etc. He also covers the setting up of furnaces, and describes all types of furnace fittings.

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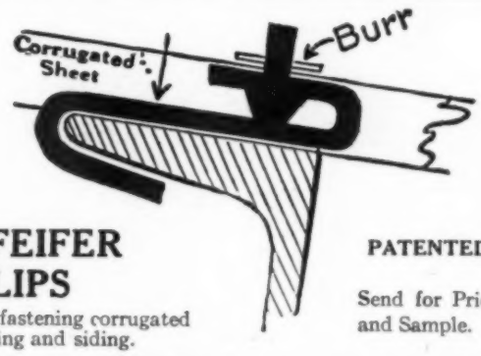


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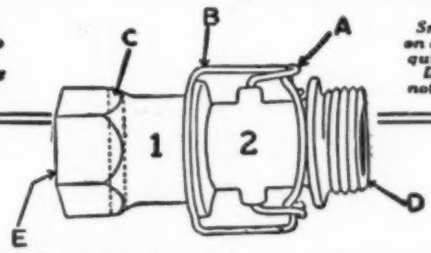


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It saves hose length and the hose, no kinking or twisting—no splashing, no leakage and you snap it on or off in a wink.

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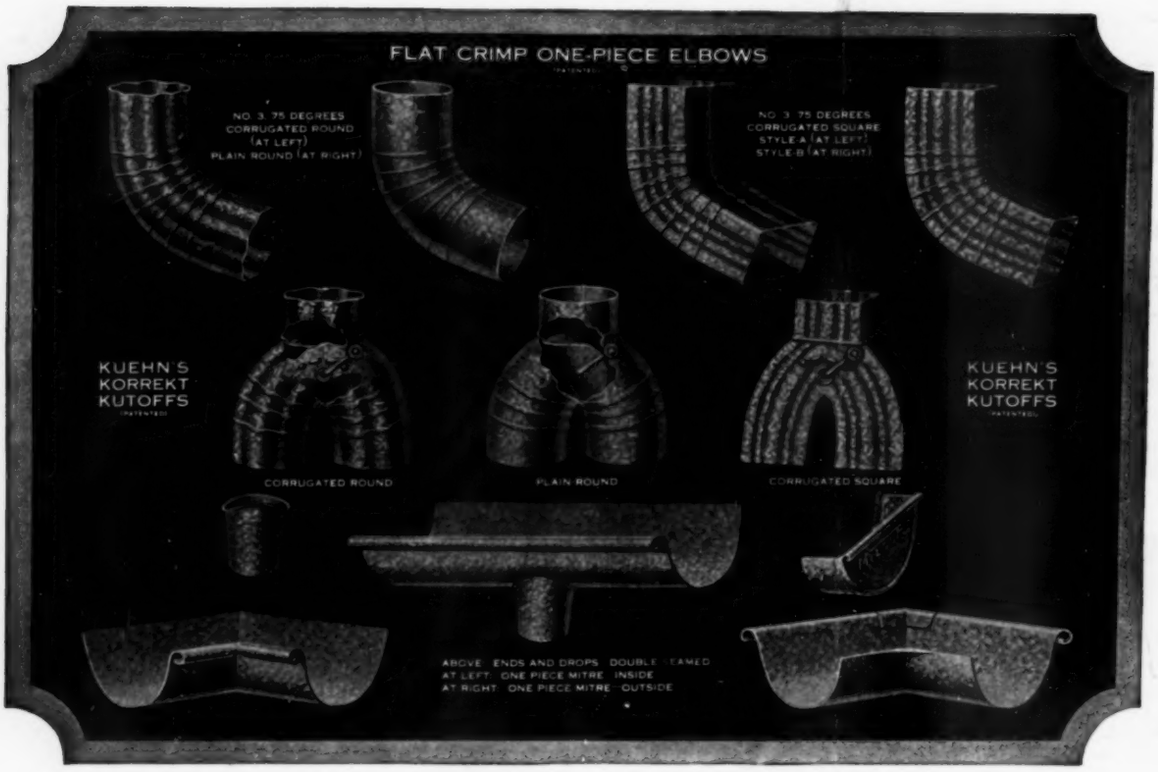
Order a sample lot now—made in four sizes. Write today for price and circulars.

**H. E. HESSLER CO.** Syracuse, New York

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UNIFORMLY dependable quality—practical, patented designs and features not found in any other line—backed by the progressive Milcor organization policy for keeping equipment and facilities ahead of demand so as to insure speedy service always; these are the circumstances quite largely responsible for the extensive use of Milcor Products.

But the good judgment of the Building Trades and the Public has also been a most important factor in making the Milcor Line so popular. Sheet metal men who are determined to serve their customers' interests best, always insist on Milcor—and preferably, Milcor Products made from pure Copper, or from the famous rust-resisting ARMCO Ingot Iron.

*Milcor Products are made in Steel; "Coppered Metal;" "Wilder Metal"; Zinc; Copper; and pure, rust-resisting*

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